

Version 5.3 Revision Date 09/23/2016 Print Date 05/19/2017

a SIGMA-ALDRICH<sup>\*</sup>company

# 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 **Product identifiers** Product name

Product name	:	Acetyl Fentanyl
Product Number Brand Index-No.	:	A-109 Cerilliant 603-001-00-X

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	-	+1 800-325-5832 +1 800-325-5052

#### 1.4 **Emergency telephone number**

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	)
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal w	ord
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Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled Causes damage to organs.
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	F SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P322	Specific measures (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	>= 90 - <= 100
EC-No.	200-659-6	STOT SE 1; H225, H301 +	%
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX	·	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

# 4.1 Description of first aid measures

# **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

# If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

# If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

# 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# **5. FIREFIGHTING MEASURES**

# 5.1 Extinguishing media

### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture No data available

# **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

# 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

# 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

# 6.4 Reference to other sections

For disposal see section 13.

# 7. HANDLING AND STORAGE

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

# 8.1 Control parameters

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indi		

1	(see BEI® s	ection)	
	Danger of cutaneous absorption		
	STEL	250.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	(see BEI® s	for which there is	a Biological Exposure Index or Indices
	TWA	200.000000 ppm 260.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for	dermal absorption	n
	ST	250.000000 ppm 325.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for	dermal absorption	n
	TWA	200.000000 ppm 260.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in	mg/m3 is approx	imate.
	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	(see BEI® s	for which there is	a Biological Exposure Index or Indices
	STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
	(see BEI® s	for which there is	
	TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for	dermal absorption	
	ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for	dermal absorption	
	TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		mg/m3 is approx	
	STEL	250 ppm	USA. OSHA - TABLE Z-1 Limits for
	Skin notatior	325 mg/m3	Air Contaminants - 1910.1000

TWA	200 ppm 260 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Skin nota	tion	
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			e ceases)
		Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

# 9.1 Information on basic physical and chemical properties

- a) Appearance Form: liquid
- b) Odour No data available

$\sim$	Odour Threshold	No data available
c)		
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n- octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available
Oth	ner safety information	

No data available

# **10. STABILITY AND REACTIVITY**

10.1 Reactivity No data available

9.2

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks. Extremes of temperature and direct sunlight.
- **10.5** Incompatible materials No data available
- **10.6** Hazardous decomposition products Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

# 11.1 Information on toxicological effects

Acute toxicity No data available

# Skin corrosion/irritation

No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

### Germ cell mutagenicity

No data available

# Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

# **Reproductive toxicity**

No data available No data available

### Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard

# **Additional Information**

RTECS: Not available

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

# **12. ECOLOGICAL INFORMATION**

# 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- 12.4 Mobility in soil No data available

# 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects** No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### **Contaminated packaging**

Dispose of as unused product.

# 14. TRANSPORT INFORMATION

# 

	<b>DOT (US)</b> UN number: 1230 Proper shipping name: Reportable Quantity (R		Packing group: II				
	Poison Inhalation Haza	rd: No					
	IMDG UN number: 1230 Proper shipping name:	Class: 3 (6.1) METHANOL, SOLUTION	Packing group: II	EMS-No	: F-E, S-D		
	IATA UN number: 1230 Proper shipping name:	Class: 3 (6.1) Methanol, solution	Packing group: II	I			
15. RE	EGULATORY INFORM	ATION					
	SARA 302 Components No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.						
	SARA 313 Components The following components are subject to reporting levels established by SARA Title III, Section 313: CAS-No. Revision Date						
	Methanol			67-56-1	2007-07-01		

# SARA 311/312 Hazards Acute Health Hazard, Chronic Health Hazard

# **Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
New Jersey Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
WARNING: This product contains a chemical known to the	CAS-No.	Revision Date
State of California to cause birth defects or other reproductive	67-56-1	2012-03-16
harm.		
Mathemal		

Methanol

# **16. OTHER INFORMATION**

### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Flam. Liq. H225 H301 H301 + H311 +	Acute toxicity Flammable liquids Highly flammable liquid and vapour. Toxic if swallowed. Toxic if swallowed, in contact with skin or if inhaled
H331 H311 H331 H370 STOT SE	Toxic in contact with skin. Toxic if inhaled. Causes damage to organs. Specific target organ toxicity - single exposure
HMIS Rating Health hazard: Chronic Health Haz Flammability: Physical Hazard	2 ard: * 0 0

### **NFPA** Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

### **Further information**

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.3

Revision Date: 09/23/2016

Print Date: 05/19/2017



# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	Acetyl fentanyl-13C6
	Product Number Brand	•	A-171 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	-	+1 800-325-5832 +1 800-325-5052

#### 1.4 **Emergency telephone number**

**Emergency Phone #** : +1-703-527-3887 (CHEMTREC)

# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

# Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Acetyl fentanyl-13C6			
		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

# 4.1 Description of first aid measures

# **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

# In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis		
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)		
	Remarks	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Ind (see BEI® section) Danger of cutaneous absorption				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)		
	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure (see BEI® section) Danger of cutaneous absorption					
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits		
		Potential for	r dermal absorptio			
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits		
			r dermal absorptio			
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants		
		The value in	n mg/m3 is approx	kimate.		
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin	- 1			
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

# 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

# **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

# 10.2 Chemical stability

Stable under recommended storage conditions.

# 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

# 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

# 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

# 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

# Germ cell mutagenicity

No data available

# Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

# **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

# **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

# 13.1 Waste treatment methods

# Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

# **Contaminated packaging**

Dispose of as unused product.

# 14. TRANSPORT INFORMATION

# DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - A-171 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

# SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

# SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard				
Massachusetts Right To Know Components				
- ·	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
Pennsylvania Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
California Prop. 65 Components				
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date		
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16		

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



1

# **SAFETY DATA SHEET**

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	<sup>:</sup> Acryl fentanyl HCl	
	Product Number Brand	: A-172 : Cerilliant	

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### Details of the supplier of the safety data sheet 1.3

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	-	+1 800-325-5832 +1 800-325-5052
	_	

#### 1.4 **Emergency telephone number**

Emergency Phone #	:	+1-703-527-3887 (	(CHEMTREC)	)
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration			
Methanol						
CAS-No. 67-56-1 F		Flam. Liq. 2; Acute Tox. 3;	90 - 100 %			
EC-No.	200-659-6	STOT SE 1; H225, H301 +				
Index-No.	603-001-00-X	H311 + H331, H370				
Registration number	01-2119433307-44-XXXX					
Acryl fentanyl HCI						
CAS-No.	79279-03-1	Acute Tox. 1; H300 + H310 +	0.1 - 1 %			
		H330				

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

# In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	Substances (see BEI® s Danger of c	Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Ind (see BEI® section) Danger of cutaneous absorption					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		Substances (see BEI® s	Nausea					
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for	r dermal absorptio					
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
			Potential for dermal absorption					
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is approx	kimate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	- 1					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

# 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

# **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

# 10.2 Chemical stability

Stable under recommended storage conditions.

# 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

# 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

# 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

# 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

# Germ cell mutagenicity

No data available

# Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

# **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

# **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

# 13.1 Waste treatment methods

# Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

# **Contaminated packaging**

Dispose of as unused product.

# **14. TRANSPORT INFORMATION**

# DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - A-172 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

# **15. REGULATORY INFORMATION**

# SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

# SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard				
Massachusetts Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
Pennsylvania Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
California Prop. 65 Components				
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date		
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16		

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	Acryl fentanyl-13C6 HCI
	Product Number Brand	-	A-173 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax		+1 800-325-5832 +1 800-325-5052
- ux	•	

#### 1.4 **Emergency telephone number**

# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word . . .

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

# Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Acryl fentanyl-13C6 HCI			
		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

# In case of eye contact

Flush eyes with water as a precaution.

# If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	Substances (see BEI® s Danger of c	Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		Substances (see BEI® s	Nausea				
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential for	r dermal absorptio				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
			Potential for dermal absorption				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value in	n mg/m3 is approx	kimate.			
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	- 1				
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis		
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)		
	Remarks	End of shift (As soon as possible after exposure ceases)					

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

# 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

# **10. STABILITY AND REACTIVITY**

# 10.1 Reactivity

No data available

# 10.2 Chemical stability

Stable under recommended storage conditions.

# 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

# 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

# 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

# 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# **11. TOXICOLOGICAL INFORMATION**

# 11.1 Information on toxicological effects

Acute toxicity Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitisation Germ cell mutagenicity Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

# **Reproductive toxicity**

### Specific target organ toxicity - single exposure

### Specific target organ toxicity - repeated exposure

### **Aspiration hazard**

### **Additional Information**

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

# **12. ECOLOGICAL INFORMATION**

# 12.1 Toxicity

12.2 Persistence and degradability

### 12.3 Bioaccumulative potential

### 12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

### **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

# Contaminated packaging

Dispose of as unused product.

# **14. TRANSPORT INFORMATION**

# DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230	Class: 3 (6.1)	Packing group: II	EMS-No: F-E, S-D
Proper shipping name:	METHANOL, SOLUTION	l	

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name:		

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

### Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



1

# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

# **1. PRODUCT AND COMPANY IDENTIFICATION**

.1	Product identifiers Product name	:	4-ANPP
	Product Number	:	A-174
	Brand	:	Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### Details of the supplier of the safety data sheet 1.3

:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
	+1 800-325-5832 +1 800-325-5052

#### 1.4 **Emergency telephone number**

# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44-XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301 + H311 + H331, H370	90 - 100 %
Despropionylfentanyl			
CAS-No.	21409-26-7	Acute Tox. 1; H300 + H310 + H330	0.1 - 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	Substances (see BEI®	Nausea				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		Substances (see BEI®	Nausea				
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential fo	r dermal absorpti				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential fo	r dermal absorpti	on			
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value i	n mg/m3 is appro	ximate.			
		С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	-				
·							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	As soon as p	ossible after expo	osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

### **14. TRANSPORT INFORMATION**

# DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - A-174 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



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# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

. . .

1.1	Product identifiers Product name	:	4-ANPP-13C6
	Product Number	:	A-175

Brand Cerilliant •

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	-	+1 800-325-5832 +1 800-325-5052

#### 1.4 **Emergency telephone number**

**Emergency Phone #** 5 +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Vethanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
I-ANPP-13C6			
		Acute Tox. 1; H300 + H310	0.1 - 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	Substances (see BEI® s Danger of c	Nausea				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption					
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential for	r dermal absorptio				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
			r dermal absorptio				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value in	n mg/m3 is approx	kimate.			
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	- 1				
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

### **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - A-175 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.	67-56-1	2012-03-16
Methanol		

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310	Fatal if swallowed or in contact with skin.
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	Butyryl fentanyl
	Product Number Brand	-	B-083 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### Details of the supplier of the safety data sheet 1.3

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	-	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 **Emergency telephone number**

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word . . .

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Butyryl fentanyl			
CAS-No.	1169-70-6	Acute Tox. 1; Aquatic Chronic	0.1 - 1 %
		4; H300 + H310 + H330, H413	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	Substances (see BEI® s Danger of c	Nausea					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices				
		TWA	200 ppm	USA. NIOSH Recommended				
		Potential fo	260 mg/m3 r dermal absorption	Exposure Limits				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for dermal absorption						
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is appro	ximate.				
		С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	•					
	· · · · · · · · · · · · · · · · · · ·							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (A	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### **Contaminated packaging**

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - B-083 Packing group: II

Packing group: II

# IATA

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

# **15. REGULATORY INFORMATION**

# SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs (/\$/*_ORGAN_SINGLE/\$/).
H413	May cause long lasting harmful effects to aquatic life.
STOT SE	Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	Butyryl fentanyl-13C6
	Product Number Brand	-	B-084 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	-	+1 800-325-5832
	•	+1 800-325-5052

#### 1.4 **Emergency telephone number**

**Emergency Phone #** 5 +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word . . .

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Vethanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Butyryl fentanyl-13C6			
•••		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis		
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)		
	Remarks	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure In (see BEI® section) Danger of cutaneous absorption		ion		
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)		
		Headache Nausea Dizziness Eye damage Substances (see BEI® s Danger of c	s a Biological Exposure Index or Indices			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits		
		Potential for dermal absorption				
	ST 250 ppm US/		USA. NIOSH Recommended Exposure Limits			
		Potential for				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants		
		The value in mg/m3 is approximate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
o)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### **Contaminated packaging**

Dispose of as unused product.

# **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - B-084 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard			
Massachusetts Right To Know Components			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
Pennsylvania Right To Know Components			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
California Prop. 65 Components			
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date	
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16	

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



# **SAFETY DATA SHEET**

Version 5.0 Revision Date 11/15/2018 Print Date 11/15/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1 Product identifiers**

Product name	<sup>:</sup> Cyclopropyl fentanyl HCl
Product Number Brand	: C-198 : Cerilliant

# **1.2** Relevant identified uses of the substance or mixture and uses advised against

# 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich Inc. 3050 Spruce Street ST. LOUIS MO 6310 UNITED STATES	
Telephone Fax		+1 314 771-5765 +1 800 325-5052	

# **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

Cerilliant - C-198

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Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210	) Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 P240 P241 P242	Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting equipment. Use only non-sparking tools.
P243 P260 P264 P270	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.
P271 P280 P301 + P310 + P330	Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311 P362 P370 + P378	IF exposed: Call a POISON CENTER or doctor/ physician. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233 P403 + P235 P405 P501	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

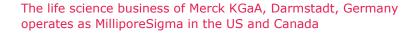
# **SECTION 3: Composition/information on ingredients**

### 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44- XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370	>= 90 - <= 100 %
N-phenyl-N-[1-(2-  hydrochloride	ohenylethyl)-4-piperidir	ıyl]-cyclopropanecarboxam	ide
•		Acute Tox. 1; H300, H330, H310	>= 0.1 - < 1 %

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For the full text of the H-Statements mentioned in this Section, see Section 16.

# SECTION 4: First aid measures

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed** No data available

# **SECTION 5: Firefighting measures**

# 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2 Special hazards arising from the substance or mixture** Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information** Use water spray to cool unopened containers.

Cerilliant - C-198



# SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

# 6.4 Reference to other sections

For disposal see section 13.

# SECTION 7: Handling and storage

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# SECTION 8: Exposure controls/personal protection

# 8.1 Control parameters

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks			is a Biological Exposure Index on)

Cerilliant - C-198

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Danger of	cutaneous absor	ption
STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
Headache Nausea Dizziness		
Eye damage Substances for which there is a Biological Exposure Ind or Indices (see BEI® section) Danger of cutaneous absorption		
TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
Potential for dermal absorption		
ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
Potential for	tion	
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
The value i	n mg/m3 is app	roximate.
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		• •
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (	As soon as	possible after exp	oosure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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# **Personal protective equipment**

# Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# **Control of environmental exposure**

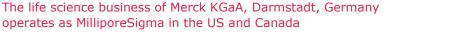
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# SECTION 9: Physical and chemical properties

# 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available

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- m) Relative density No data available
- n) Water solubility No data available
- o) Partition coefficient: No data available n-octanol/water
- p) Auto-ignition No data available temperature
- q) Decomposition No data available temperature
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available
- 9.2 Other safety information No data available

# **SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No data available
- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
- **10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5

# **SECTION 11: Toxicological information**

# **11.1** Information on toxicological effects

Acute toxicity No data available

**Skin corrosion/irritation** No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

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# Germ cell mutagenicity

No data available

# Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

# **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

**Specific target organ toxicity - repeated exposure** No data available

Aspiration hazard No data available

# **Additional Information**

**RTECS:** Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

# **SECTION 12: Ecological information**

- **12.1 Toxicity** No data available
- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- 12.4 Mobility in soil No data available

### 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects** No data available

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# SECTION 13: Disposal considerations

### **13.1 Waste treatment methods**

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

### **Contaminated packaging**

Dispose of as unused product.

# **SECTION 14: Transport information**

### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

# ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

# **SECTION 15: Regulatory information**

# Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Methanol	CAS-No.	Revision Date
	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components		
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01

# **California Prop. 65 Components**

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This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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# **SAFETY DATA SHEET**

Version 5.0 Revision Date 11/15/2018 Print Date 11/15/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1 Product identifiers**

Id

Product name	:	Cyclopropyl fentanyl-13C6 HCl
Product Number Brand	•	C-199 Cerilliant
Delever tide stiffed as		files and stand an end of a defined and in a

# **1.2** Relevant identified uses of the substance or mixture and uses advised against

lentified uses	:	Laboratory chemicals, Synthesis of substances	
----------------	---	---	--

# 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich Inc. 3050 Spruce Street ST. LOUIS MO 63103 UNITED STATES
Telephone Fax	-	+1 314 771-5765 +1 800 325-5052

# **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

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Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210	) Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 P240 P241 P242	Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting equipment. Use only non-sparking tools.
P243 P260 P264 P270	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.
P271 P280 P301 + P310 + P330	Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353	Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311 P362 P370 + P378	IF exposed: Call a POISON CENTER or doctor/ physician. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233 P403 + P235 P405 P501	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **SECTION 3: Composition/information on ingredients**

### 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44- XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370	>= 90 - <= 100 %
Cyclopropyl fentan	yl-13C6 HCl		
		Acute Tox. 1; H300, H330, H310	>= 0.1 - < 1 %

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For the full text of the H-Statements mentioned in this Section, see Section 16.

# **SECTION 4: First aid measures**

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

# If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- **4.3 Indication of any immediate medical attention and special treatment needed** No data available

# **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

**Suitable extinguishing media** Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

**5.2 Special hazards arising from the substance or mixture** Carbon oxides

# 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

# 5.4 Further information

Use water spray to cool unopened containers.

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# SECTION 6: Accidental release measures

# 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# **6.3 Methods and materials for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

# 6.4 Reference to other sections

For disposal see section 13.

# SECTION 7: Handling and storage

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# SECTION 8: Exposure controls/personal protection

# 8.1 Control parameters

# Components with workplace control parameters

Component	CAS-No.	Value	Control	Basis
			parameters	
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	or Indices (		

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STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
or Indices	s for which there (see BEI® section	
TWA	cutaneous absor 200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
Potential for	or dermal absorp	
ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
Potential for	or dermal absorp	otion
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
The value i	in mg/m3 is app	
C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin	1	
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (	As soon as	possible after exp	oosure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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# **Personal protective equipment**

# Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# SECTION 9: Physical and chemical properties

# 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available

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- m) Relative density No data available
- n) Water solubility No data available
- o) Partition coefficient: No data available n-octanol/water
- p) Auto-ignition No data available temperature
- q) Decomposition No data available temperature
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available
- 9.2 Other safety information No data available

# **SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No data available
- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.

# **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

**10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# **SECTION 11: Toxicological information**

### 11.1 Information on toxicological effects

Acute toxicity No data available

**Skin corrosion/irritation** No data available

### Serious eye damage/eye irritation No data available

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# **Respiratory or skin sensitisation**

No data available

Germ cell mutagenicity

No data available

# Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity** No data available

No data available

**Specific target organ toxicity - single exposure** No data available

**Specific target organ toxicity - repeated exposure** No data available

Aspiration hazard No data available

Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

- **12.1 Toxicity** No data available
- **12.2 Persistence and degradability** No data available
- **12.3 Bioaccumulative potential** No data available
- **12.4 Mobility in soil** No data available
- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

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### SECTION 13: Disposal considerations

# **13.1 Waste treatment methods**

# Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

# Contaminated packaging

Dispose of as unused product.

DOT (US) UN number: 1230 Class: 3 Pack Proper shipping name: MethanolSOLUTION	king group: II	
Reportable Quantity (RQ): Poison Inhalation Hazard: No		
IMDG UN number: 1230 Class: 3 (6.1) Pack Proper shipping name: METHANOLSOLUTION	king group: II	EMS-No: F-E, S-D
<b>IATA</b> UN number: 1230 Class: 3 (6.1) Pack Proper shipping name: MethanolSOLUTION	king group: II	
TION 15: Regulatory information Massachusetts Right To Know Components No components are subject to the Massachuset		
Pennsylvania Right To Know Components		
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada



# **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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# **SAFETY DATA SHEET**

Version 5.0 Revision Date 10/26/2018 Print Date 10/26/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	<sup>:</sup> Furanyl fentanyl HCI	
	Product Number Brand	: F-063 : Cerilliant	

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 **Emergency telephone number**

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Furanylfentanyl hydrochl	oride		
CAS-No.	101365-56-4	Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	Substances (see BEI® s Danger of c	Nausea					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices				
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for	r dermal absorptio					
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
			Potential for dermal absorption					
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is approx	kimate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	- 1					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	As soon as p	ossible after expo	osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
o)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

### **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - F-063 Packing group: II

Packing group: II

### ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/26/2018

Print Date: 10/26/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/26/2018 Print Date 10/26/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	Furanyl fentanyl-13C6 HCl
	Product Number Brand		F-064 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Furanyl fentanyl-13C6 HC	I		
		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis		
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)		
	Remarks	(see BEI® s Danger of c	for which there is section) utaneous absorpt			
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)		
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices		
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits		
		Potential for				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits		
		Potential for dermal absorption				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants		
		The value in mg/m3 is approximate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin	Skin			
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin	- 1			
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
		Skin				

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

### **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# **12.6 Other adverse effects**

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - F-064 Packing group: II

Packing group: II

### ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels establishe	d by SARA Title III, S	Section 313:	
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard			
Massachusetts Right To Know Components			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
Pennsylvania Right To Know Components			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
California Prop. 65 Components			
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date	
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16	

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

Further information

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## **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/26/2018

Print Date: 10/26/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/26/2018 Print Date 10/26/2018

a SIGMA-ALDRICH company

## 1. PRODUCT AND COMPANY IDENTIFICATION

1.1	Product identifiers Product name	:	para-Fluorobutyryl fentanyl
	Product Number Brand	-	F-065 Cerilliant

## 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

## 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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## 2. HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

## Hazardous components

Component		Classification	Concentration		
Methanol					
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %		
EC-No.	200-659-6	STOT SE 1; H225, H301 +			
Index-No.	603-001-00-X	H311 + H331, H370			
Registration number	01-2119433307-44-XXXX				
N-(4-Fluorophenyl)-N-(1-phenethylpiperidin-4-yl)butyramide					
CAS-No.	244195-31-1	Acute Tox. 1; Acute Tox. 2;	0.1 - 1 %		
		Acute Tox. 1; H300 + H310 +			
		H330			

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

## If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

## In case of eye contact

Flush eyes with water as a precaution.

## If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

## **4.3 Indication of any immediate medical attention and special treatment needed** No data available

## **5. FIREFIGHTING MEASURES**

## 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

## 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

## 5.4 Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

## 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

## 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

## 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

## 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

## Components with workplace control parameters

Methanol       67-56-1       TWA       200 ppm       USA. ACGIH Thresh (TLV)         Remarks       Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure (see BEI® section)       Biological Exposure (see BEI® section)         Danger of cutaneous absorption       STEL       250 ppm       USA. ACGIH Thresh (TLV)         Headache Nausea       Nausea       Dizziness       Eye damage         STEL       250 ppm       USA. ACGIH Thresh (TLV)         Headache Nausea       Dizziness       Eye damage         SUBStances for which there is a Biological Exposure       Eye damage         Substances for which there is a Biological Exposure       Intervention	Index or Indices
Nausea         Dizziness         Eye damage         Substances for which there is a Biological Exposure I         (see BEI® section)         Danger of cutaneous absorption         STEL       250 ppm         USA. ACGIH Thresh         (TLV)         Headache         Nausea         Dizziness         Eye damage         Substances for which there is a Biological Exposure	
Substances for which there is a Biological Exposure (see BEI® section)         Danger of cutaneous absorption         STEL       250 ppm       USA. ACGIH Thresh (TLV)         Headache         Nausea       Dizziness         Eye damage       Substances for which there is a Biological Exposure	
STEL       250 ppm       USA. ACGIH Thresh (TLV)         Headache       Nausea         Dizziness       Eye damage         Substances for which there is a Biological Exposure	
Nausea Dizziness Eye damage Substances for which there is a Biological Exposure	ioid Limit Values
Danger of cutaneous absorption	Index or Indices
TWA 200 ppm USA. NIOSH Recom 260 mg/m3 Exposure Limits	mended
Potential for dermal absorption	
ST 250 ppm USA. NIOSH Recom 325 mg/m3 Exposure Limits	Imended
Potential for dermal absorption	
TWA 200 ppm USA. Occupational E 260 mg/m3 (OSHA) - Table Z-1 I Contaminants	
The value in mg/m3 is approximate.	
C 1,000 ppm California permissible limits for chemical co (Title 8, Article 107)	
Skin	
PEL 200 ppm California permissible 260 mg/m3 limits for chemical co (Title 8, Article 107)	
Skin	
STEL 250 ppm California permissible 325 mg/m3 limits for chemical co (Title 8, Article 107)	
Skin	ontaminants

Hazardous components without workplace control parameters

## **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	, a l			ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Colour: colourless	
b) Odour characteristic	
c) Odour Threshold No data available	
d) pH No data available	
e) Melting point/freezing Melting point: -98.0 °C (-144.4 °F) point	
f) Initial boiling point and 64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg) boiling range	
g) Flash point 9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1	
h) Evaporation rate 6.3 - Diethylether1.9 - n-butyl acetate	
i) Flammability (solid, gas) No data available	
j)Upper/lowerUpper explosion limit: 36.5 %(V)flammability orLower explosion limit: 5.5 %(V)explosive limits	
k) Vapour pressure 128 hPa (96 mmHg) at 20.0 °C (68.0 °F)	
I) Vapour density 1.11	
m) Relative density 0.79 g/cm3 at 20 °C (68 °F)	
n) Water solubility soluble	
<ul> <li>Partition coefficient: n- log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not experience octanol/water</li> </ul>	cted.
p) Auto-ignition 455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794	

temperature

- q) Decomposition Distillable in an undecomposed state at normal pressure.
   temperature
- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 μS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

## 10.1 Reactivity

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

## 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

# 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

## **11. TOXICOLOGICAL INFORMATION**

## 11.1 Information on toxicological effects

Acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

Germ cell mutagenicity No data available

## Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

### Aspiration hazard No data available

### **Additional Information**

**RTECS: Not available** 

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

## **12. ECOLOGICAL INFORMATION**

## 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- 12.4 Mobility in soil No data available

## 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects** No data available

## **13. DISPOSAL CONSIDERATIONS**

## 13.1 Waste treatment methods

## Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

## Contaminated packaging

Dispose of as unused product.

## **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

## IMDG

UN number: 1230	Class: 3 (6.1)	Packing group: II	EMS-No: F-E, S-D
Proper shipping name:	METHANOL, SOLUTION		

## ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name		

## **15. REGULATORY INFORMATION**

## SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S CAS-No.	Section 313: Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

## **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

## Further information

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or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

## **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/26/2018

Print Date: 10/26/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/26/2018 Print Date 10/26/2018

a SIGMA-ALDRICH company

## **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	para-Fluorobutyryl fentanyl-13C6
	Product Number Brand	-	F-066 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 **Emergency telephone number**

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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## 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



S	ig	n	a	I	۷	v	0	r	d

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

. .

P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

## Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
para-Fluorobutyryl fentan	yl-13C6		
		Acute Tox. 1; H300 + H310	0.1 - 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

## If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

## 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

## Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	(see BEI® s Danger of c	for which there is section) utaneous absorpt					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices				
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for	r dermal absorptio					
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
			Potential for dermal absorption					
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is approx	kimate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	- 1					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						

Hazardous components without workplace control parameters

## **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	End of shift (As soon as possible after exposure ceases)		

## 8.2 Exposure controls

## Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

## 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

## 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

## Germ cell mutagenicity

No data available

## Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

## **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## **12.6 Other adverse effects**

No data available

## **13. DISPOSAL CONSIDERATIONS**

## 13.1 Waste treatment methods

## Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

## Contaminated packaging

Dispose of as unused product.

## **14. TRANSPORT INFORMATION**

## DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

## IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - F-066 Packing group: II

Packing group: II

## ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

## **15. REGULATORY INFORMATION**

## SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

## SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard				
Massachusetts Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
Pennsylvania Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
California Prop. 65 Components				
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date		
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16		

## **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310	Fatal if swallowed or in contact with skin.
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

Further information

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## **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/26/2018

Print Date: 10/26/2018



1

# **SAFETY DATA SHEET**

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

## **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	para-Fluorofentanyl
	Product Number Brand	-	F-067 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 **Emergency telephone number**

Emergency Phone #	:	+1-703-527-3887 (	(CHEMTREC)	)
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## 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44-XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301 + H311 + H331, H370	90 - 100 %
para-Fluorofentanyl			
CAS-No.	90736-23-5	Acute Tox. 1; H300 + H310 + H330	0.1 - 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

## In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

## 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

## Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	Substances (see BEI® s Danger of c	Nausea					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices				
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for	r dermal absorptio					
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
			Potential for dermal absorption					
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is approx	kimate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	- 1					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						

Hazardous components without workplace control parameters

## **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

## 8.2 Exposure controls

## Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

## 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

## 11.1 Information on toxicological effects

Acute toxicity No data available

### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

## Germ cell mutagenicity

No data available

## Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

## **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## **12.6 Other adverse effects**

No data available

## **13. DISPOSAL CONSIDERATIONS**

## 13.1 Waste treatment methods

## Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

## **Contaminated packaging**

Dispose of as unused product.

## **14. TRANSPORT INFORMATION**

## DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

## IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - F-067 Packing group: II

Packing group: II

## IATA

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	e: Methanol, solution	

## **15. REGULATORY INFORMATION**

## SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

## SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:				
	CÁS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard				
Massachusetts Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
Pennsylvania Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
California Prop. 65 Components				
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date		
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16		

## **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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## **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/30/2018

Print Date: 10/30/2018



# **SAFETY DATA SHEET**

Version 6.0 Revision Date 12/07/2018 Print Date 12/07/2018

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## **1.1 Product identifiers**

1.2

Relevant identified use	es	of the substance or mixture and uses advised against
Product Number Brand	•	F-068 cerilliant
Product name	:	para-Fluorofentanyl-13C6

Identified uses : Laboratory chemicals, Synthesis of substances

## **1.3** Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Research Biochemicals, Inc 3050 Spruce Street SAINT LOUIS MO 63103 UNITED STATES

## **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

## **SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331

Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled.

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H370	Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No
	smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated
	clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable
	for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal
	plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## **SECTION 3: Composition/information on ingredients**

For the full text of the H-Statements mentioned in this Section, see Section 16.

## **SECTION 4: First aid measures**

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

## In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

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## In case of eye contact

Flush eyes with water as a precaution.

## If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed** No data available

## **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2 Special hazards arising from the substance or mixture** Carbon oxides
- **5.3 Advice for firefighters** Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## **SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures** Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

- **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- **6.3 Methods and materials for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- **6.4** Reference to other sections For disposal see section 13.

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## SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 3: Flammable liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

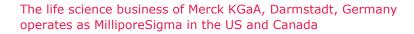
## 8.1 Control parameters

## **Components with workplace control parameters**

Component	CAS-No.	Value	Control	Basis
			parameters	
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit
				Values (TLV)
	Remarks	Headache		
		Nausea		
		Dizziness		
		Eye damag		
				is a Biological Exposure Index
			see BEI® sectio	2
			utaneous absor	
		STEL	250 ppm	USA. ACGIH Threshold Limit
				Values (TLV)
		Headache		
		Nausea		
		Dizziness	_	
		Eye damag		ia a Dialaginal Evenesium Indev
				is a Biological Exposure Index
			see BEI® section secti	-
		TWA	200 ppm	USA. NIOSH Recommended
		IWA	260 mg/m3	Exposure Limits
		Potential fo	r dermal absorp	
		ST	250 ppm	USA. NIOSH Recommended
		51	325 mg/m3	Exposure Limits
		Potential fo	r dermal absorp	
		TWA	200 ppm	USA. Occupational Exposure
		IVVA	260 mg/m3	Limits (OSHA) - Table Z-1
			200 mg/m3	Limits for Air Contaminants
		The value i	n mg/m3 is appi	
				UNITIALCI

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C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Skin		

## **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (	As soon as	possible after exp	osure ceases)

## 8.2 Exposure controls

## Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## Personal protective equipment

## Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

## **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## **SECTION 9: Physical and chemical properties**

## 9.1 Information on basic physical and chemical properties

	-	
a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available
	<b>ter safety informatio</b> data available	n

## SECTION 10: Stability and reactivity

### **10.1 Reactivity**

No data available

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9.2

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## 10.2 Chemical stability

Stable under recommended storage conditions.

- 10.3 Possibility of hazardous reactions No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.

**10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

**10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5

## **SECTION 11: Toxicological information**

## **11.1 Information on toxicological effects**

## **Acute toxicity**

No data available

Inhalation: No data available

Dermal: No data available

No data available

## Skin corrosion/irritation

No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity No data available

## Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

## **Reproductive toxicity**

No data available No data available

# Specific target organ toxicity - single exposure

No data available

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## Specific target organ toxicity - repeated exposure

No data available

## Aspiration hazard

No data available

## Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

## **SECTION 12: Ecological information**

- 12.1 Toxicity No data available
- **12.2 Persistence and degradability** No data available
- **12.3 Bioaccumulative potential** No data available
- **12.4 Mobility in soil** No data available
- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects No data available

## SECTION 13: Disposal considerations

## 13.1 Waste treatment methods

## Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

## **Contaminated packaging**

Dispose of as unused product.

## **SECTION 14:** Transport information

## DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

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Reportable Quantity (RQ): Poison Inhalation Hazard: No

### IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

# ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

# SECTION 15: Regulatory information

Massachusetts Right To Know Components No components are subject to the Massachusetts Right	to Know Act.	
Pennsylvania Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

### **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Version: 6.0

Revision Date: 12/07/2018

Print Date: 12/07/2018

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada





1

1.2

# SAFETY DATA SHEET

Version 5.0 Revision Date 11/05/2018 Print Date 11/05/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

.1	Product identifiers Product name	<sup>:</sup> Fentanyl-13C6	5
	Product Number Brand	: F-069 : Cerilliant	

Relevant identified uses of the substance or mixture and uses advised against Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone Fax	:	+1 800-325-5832 +1 800-325-5052

#### 1.4 **Emergency telephone number**

**Emergency Phone #** 5 +1-703-527-3887 (CHEMTREC)

# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Fentanyl-13C6			
		Acute Tox. 1; H300 + H310 + H330	0.1 - 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	(see BEI® s Danger of c	s for which there i section) cutaneous absorp				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		(see BEI® s	s for which there i	s a Biological Exposure Index or Indices			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential fo	r dermal absorpti				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
			Potential for dermal absorption				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value i	n mg/m3 is appro	ximate.			
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	-				
·							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	As soon as p	ossible after expo	osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

#### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### **Contaminated packaging**

Dispose of as unused product.

### **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - F-069 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 11/05/2018

Print Date: 11/05/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

a SIGMA-ALDRICH company

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	:	(±)-beta-Hydroxythiofentanyl HCl
	Product Number Brand	•	H-137 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
	nyl HCI (sum of diastereor	ners)	
		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or In (see BEI® section) Danger of cutaneous absorption					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		Substances (see BEI® s	Nausea				
		TWA	200 ppm	USA. NIOSH Recommended			
		Potential for	260 mg/m3 r dermal absorption	Exposure Limits			
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential for	Potential for dermal absorption				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value in	n mg/m3 is appro	ximate.			
		С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	·				

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis		
	- N		15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)		
	Remarks	End of shift (As soon as possible after exposure ceases)					

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

# DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - H-137 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:							
	CAS-No.	Revision Date					
Methanol	67-56-1	2007-07-01					
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard							
Massachusetts Right To Know Components							
- ·	CAS-No.	Revision Date					
Methanol	67-56-1	2007-07-01					
Pennsylvania Right To Know Components	Pennsylvania Right To Know Components						
	CAS-No.	Revision Date					
Methanol	67-56-1	2007-07-01					
California Prop. 65 Components							
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date					
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16					

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/30/2018

Print Date: 10/30/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

a SIGMA-ALDRICH company

# 1. PRODUCT AND COMPANY IDENTIFICATION

1.1	Product identifiers Product name	:	(±)-beta-Hydroxythiofentanyl-13C6 HCl
	Product Number Brand	•	H-138 Cerilliant

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
(±)-beta-Hydroxythiofenta	nyl-13C6 HCl		
	•	Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control	Basis					
Methanol	67-56-1	TWA	parameters	USA. ACGIH Threshold Limit Values					
Methanol	1-06-10	IVVA	200 ppm	(TLV)					
	Remarks	Headache							
		Nausea							
		Dizziness							
		Eye damaç							
			Substances for which there is a Biological Exposure Index or Indices (see BEI® section)						
			(see BEI® section) Danger of cutaneous absorption						
		STEL	250 ppm	USA. ACGIH Threshold Limit Values					
		SILL	200 ppm	(TLV)					
		Headache							
		Nausea							
		Dizziness							
		Eye damaç							
				s a Biological Exposure Index or Indices					
			(see BEI® section) Danger of cutaneous absorption						
		TWA	200 ppm	USA. NIOSH Recommended					
		1004	260 mg/m3	Exposure Limits					
		Potential fo	or dermal absorpti						
		ST	250 ppm	USA. NIOSH Recommended					
		_	325 mg/m3	Exposure Limits					
		Potential for	Potential for dermal absorption						
		TWA	200 ppm	USA. Occupational Exposure Limits					
			260 mg/m3	(OSHA) - Table Z-1 Limits for Air					
				Contaminants					
			in mg/m3 is appro						
		С	1,000 ppm	California permissible exposure					
				limits for chemical contaminants					
				(Title 8, Article 107)					
		Skin	000						
		PEL	200 ppm	California permissible exposure					
			260 mg/m3	limits for chemical contaminants (Title 8, Article 107)					
		Skin	1						
		STEL	250 ppm	California permissible exposure					
		SIEL	325 mg/m3	limits for chemical contaminants					
			020 mg/m3	(Title 8, Article 107)					
		Skin	1						
		UNIT							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

#### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### **Contaminated packaging**

Dispose of as unused product.

### **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - H-138 Packing group: II

Packing group: II

# ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# **15. REGULATORY INFORMATION**

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard		
Massachusetts Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Pennsylvania Right To Know Components		
	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
California Prop. 65 Components		
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H300 + H310 +	Fatal if swallowed, in contact with skin or if inhaled.
H330	
H301	Toxic if swallowed.
H301 + H311 +	Toxic if swallowed, in contact with skin or if inhaled.
H331	
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
STOT SE	Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/30/2018

Print Date: 10/30/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

a SIGMA-ALDRICH company

# 1. PRODUCT AND COMPANY IDENTIFICATION

1.1	Product identifiers Product name	:	Methoxyacetyl fentanyl HCl
	Product Number Brand	-	M-220 Cerilliant

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal	word
eigna	

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

#### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Methoxyacetyl fentanyl H	CI		
CAS-No.	101365-54-2	Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

## 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 **Further information**

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis				
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)				
	Remarks	(see BEI® s Danger of c	for which there is section) utaneous absorpt					
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)				
		Substances (see BEI® s	Nausea					
-		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits				
		Potential for	r dermal absorptio					
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits				
			Potential for dermal absorption					
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants				
		The value in	n mg/m3 is approx	kimate.				
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin	- 1					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)				
		Skin						

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	As soon as p	ossible after expo	osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
o)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

# **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

### **12. ECOLOGICAL INFORMATION**

#### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

### **14. TRANSPORT INFORMATION**

### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - M-220 Packing group: II

Packing group: II

#### ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# 15. REGULATORY INFORMATION

#### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:					
	CAS-No.	Revision Date			
Methanol	67-56-1	2007-07-01			
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard					
Massachusetts Right To Know Components					
-	CAS-No.	Revision Date			
Methanol	67-56-1	2007-07-01			
Pennsylvania Right To Know Components					
	CAS-No.	Revision Date			
Methanol	67-56-1	2007-07-01			
California Prop. 65 Components					
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date			
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16			

#### **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/30/2018

Print Date: 10/30/2018



# **SAFETY DATA SHEET**

Version 5.0 Revision Date 11/15/2018 Print Date 11/15/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### **1.1 Product identifiers**

	Product name	:	Methoxyacetyl fentanyl-13C6 HCl
	Product Number	:	M-221
	Brand	:	Cerilliant
1.2	Relevant identified us	es	of the substance or mixture and uses advised against

# Identified uses : Laboratory chemicals, Synthesis of substances

# **1.3** Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich Inc. 3050 Spruce Street ST. LOUIS MO 63103 UNITED STATES
Telephone Fax	-	+1 314 771-5765 +1 800 325-5052

# **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

Cerilliant - M-221

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Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210	) Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 P240 P241 P242	Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting equipment. Use only non-sparking tools.
P243 P260 P264 P270	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.
P271 P280 P301 + P310 + P330	Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353	Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311 P362 P370 + P378	IF exposed: Call a POISON CENTER or doctor/ physician. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233 P403 + P235 P405 P501	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration	67-56-1 200-659-6 603-001-00-X 01-2119433307-44-	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370	>= 90 - <= 100 %
number	XXXX		

For the full text of the H-Statements mentioned in this Section, see Section 16.

Cerilliant - M-221

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# **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed** No data available

# **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2 Special hazards arising from the substance or mixture** Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information

Use water spray to cool unopened containers.

# **SECTION 6: Accidental release measures**

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

Cerilliant - M-221

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# 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### **6.4 Reference to other sections** For disposal see section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Components with workplace control parameters**

components with						
Component	CAS-No.	Value	Control	Basis		
			parameters			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
	Remarks	Headache				
	Remarks	Nausea				
		Dizziness				
		Eye damage				
		Substances for which there is a Biological Exposure Ind or Indices (see BEI® section)				
			-	-		
		Danger of c	utaneous absor			
		STEL	250 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
		Headache				
		Nausea				
		Dizziness Eye damage Substances for which there is a Biological Exposure Index				
			see BEI® sectio	5		
		or marces (	See DET® Sectio	n)		

Cerilliant - M-221

Millipore Sigma

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Danger of cutaneous absorption			
TWA	200 ppm	USA. NIOSH Recommended	
	260 mg/m3	Exposure Limits	
Potential fo	r dermal absorp	tion	
ST	250 ppm	USA. NIOSH Recommended	
	325 mg/m3	Exposure Limits	
Potential fo	r dermal absorp	tion	
TWA	200 ppm	USA. Occupational Exposure	
	260 mg/m3	Limits (OSHA) - Table Z-1	
		Limits for Air Contaminants	
 The value i	n mg/m3 is appi		
С	1,000 ppm	California permissible exposure	
		limits for chemical	
		contaminants (Title 8, Article	
		107)	
Skin			
PEL	200 ppm	California permissible exposure	
	260 mg/m3	limits for chemical	
		contaminants (Title 8, Article 107)	
Skin		107)	
	250		
STEL	250 ppm	California permissible exposure limits for chemical	
	325 mg/m3		
		contaminants (Title 8, Article 107)	
Skin	1		

#### **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

#### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# **Personal protective equipment**

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available

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- s) Explosive properties No data available
- t) Oxidizing properties No data available
- **9.2 Other safety information** No data available

#### **SECTION 10: Stability and reactivity**

# 10.1 Reactivity

No data available

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
- **10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

# Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

**Skin corrosion/irritation** No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is

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identified as probable, possible or confirmed human carcinogen by IARC.

- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available No data available

**Specific target organ toxicity - single exposure** No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

# 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- **12.4 Mobility in soil** No data available

#### 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### **12.6 Other adverse effects**

No data available

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# SECTION 13: Disposal considerations

#### **13.1 Waste treatment methods**

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

#### **Contaminated packaging**

Dispose of as unused product.

# **SECTION 14:** Transport information

#### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

#### IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

#### ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

# **SECTION 15: Regulatory information**

# Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

#### **California Prop. 65 Components**

Cerilliant - M-221



This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

#### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 5.0

Revision Date: 11/15/2018

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# **SAFETY DATA SHEET**

Version 0.0 Revision Date 12/14/2018 Print Date 12/14/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1** Product identifiers

Product name

· 4'-Methyl acetyl fentanyl HCl

Product Number : M-223-1ML Brand : Cerilliant

# **1.2** Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

# **1.3** Details of the supplier of the safety data sheet

Company

: Alrich Chemmical Company LLC 6000 N. Teutonia Avenue MILWAUKEE WI 53209-3645 UNITED STATES

# **1.4 Emergency telephone number**

Emergency Phone # :

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated
	clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# SECTION 3: Composition/information on ingredients

# 3.2 Mixtures

- Synonyms
- : N-[1-[2-(4-methylphenyl)ethyl]-4-piperidinyl]-N-phenylacetamide HCl

Molecular weight : 32.04 g/mol

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	>= 90 - <=
EC-No.	200-659-6	STOT SE 1; H225, H301,	100 %
Index-No.	603-001-00-X	H331, H311, H370	
Registration	01-2119433307-44-		
number	XXXX		

4'-Methyl acetyl fentanyl HCl		
	Acute Tox. 1; H300	>= 0.1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- 4.3 Indication of any immediate medical attention and special treatment needed No data available

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2** Special hazards arising from the substance or mixture Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

#### **SECTION 6: Accidental release measures**

# 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### **6.4 Reference to other sections** For disposal see section 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 - 0 °C Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Headache Nausea Dizziness		

or Indices			
STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)	
or Indices Danger of	s for which ther (see BEI® secti cutaneous abso	e is a Biological Exposure Index ion) rption	
TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential for	Potential for dermal absorption		
 ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential for	Potential for dermal absorption		
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants	
The value	in mg/m3 is app	proximate.	
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

biological occupational exposure mints						
Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

#### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C 147.2 - 149.0 °F at 1,013 hPa
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate

i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n-octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.
r)	Viscosity	0.54 - 0.59 mm2/s at 20 °C (68 °F) -
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available
Oth	er safety informatio	n
	Minimum ignition	0.14 mJ

# 9.2

Minimum ignition	0.14 mJ
energy	
Conductivity	< 1 µS/cm
Relative vapour density	1.11

### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

No data available

#### **10.2 Chemical stability**

Stable under recommended storage conditions.

# **10.3 Possibility of hazardous reactions**

Risk of explosion with: Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with: Risk of ignition or formation of inflammable gases or vapours with: Fluorine, Oxides of phosphorus, RaneynickelGenerates dangerous gases or fumes in contact with: Alkali metals, Alkaline earth metals

# **10.4** Conditions to avoid

Warming. Heat, flames and sparks.

#### **10.5** Incompatible materials

Magnesium, zinc alloys, various plasticsStrong oxidizing agents

#### **10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

#### **SECTION 11: Toxicological information**

#### **11.1** Information on toxicological effects

Acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity

No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

**Specific target organ toxicity - repeated exposure** No data available

Aspiration hazard No data available

Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

#### 12.1 Toxicity No data available

- 12.2 Persistence and degradability No data available
- 12.3 Bioaccumulative potential No data available
- 12.4 Mobility in soil No data available
- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects No data available

#### **SECTION 13: Disposal considerations**

#### **13.1 Waste treatment methods**

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

#### **Contaminated packaging**

Dispose of as unused product.

#### **SECTION 14: Transport information**

#### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

#### IMDG

UN number: 1230 No: F-E, S-D Proper shipping name: METHANOLSOLUTION

Class: 3 (6.1)

Packing group: II EMS-

ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

#### **SECTION 15: Regulatory information**

#### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Methanol	CAS-No.	Revision Date
	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components		
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01

#### **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### **SECTION 16: Other information**

#### **Further information**

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# **SAFETY DATA SHEET**

Version 0.0 Revision Date 12/14/2018 Print Date 12/14/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1** Product identifiers

Product name

: 4'-Methyl acetyl fentanyl-13C6 HCl

Product Number : M-224-1ML Brand : Cerilliant

# **1.2** Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

# **1.3** Details of the supplier of the safety data sheet

Company

: Alrich Chemmical Company LLC 6000 N. Teutonia Avenue MILWAUKEE WI 53209-3645 UNITED STATES

# **1.4 Emergency telephone number**

Emergency Phone # :

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353	Rinse mouth.
P303 + P301 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable
FJ04 T FJ40 T FJ11	for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal
	plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# SECTION 3: Composition/information on ingredients

# 3.2 Mixtures

- Synonyms
- : N-[1-[2-(4-methylphenyl)ethyl]-4-piperidinyl]-N-phenylacetamide-13C6 HCl

Molecular weight : 32.04 g/mol

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	>= 90 - <=
EC-No.	200-659-6	STOT SE 1; H225, H301,	100 %
Index-No.	603-001-00-X	H331, H311, H370	
Registration	01-2119433307-44-		
number	XXXX		

4'-Methyl acetyl fentanyl-13C6 HCl		
	Acute Tox. 1; H300, H330, H310	>= 0.1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- 4.3 Indication of any immediate medical attention and special treatment needed No data available

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

**Suitable extinguishing media** Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2** Special hazards arising from the substance or mixture Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

#### **SECTION 6: Accidental release measures**

# 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### **6.4 Reference to other sections** For disposal see section 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 - 0 °C Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Headache Nausea Dizziness		

or Indices			
STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)	
or Indices Danger of	s for which ther (see BEI® secti cutaneous abso	e is a Biological Exposure Index ion) rption	
TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential for	Potential for dermal absorption		
 ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential for	or dermal absor	ption	
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants	
The value	in mg/m3 is app	proximate.	
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

biological occupational exposure mints					
Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

#### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C 147.2 - 149.0 °F at 1,013 hPa
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate

i)	Flan gas		No data available
j	flam	er/lower nmability or losive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k	) Vap	our pressure	128 hPa at 20.0 °C (68.0 °F)
I)	Vap	our density	1.11
n	n) Rela	ative density	0.79 g/cm3 at 20 °C (68 °F)
n	) Wat	er solubility	soluble
0	,	ition coefficient: ctanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
р		o-ignition perature	455.0 °C (851.0 °F) at 1,013 hPa - DIN 51794
q		omposition perature	Distillable in an undecomposed state at normal pressure.
r	) Visc	cosity	0.54 - 0.59 mm2/s at 20 °C (68 °F) -
S	) Exp	losive properties	No data available
ť	) Oxio	dizing properties	No data available
0	ther sa	afety informatio	n
	Minir	num ianition	0.14 mJ

# 9.2

Minimum ignition	0.14 mJ
energy	
Conductivity	< 1 µS/cm
Relative vapour density	1.11

### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

No data available

#### **10.2 Chemical stability**

Stable under recommended storage conditions.

#### **10.3 Possibility of hazardous reactions**

Risk of explosion with: Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with: Risk of ignition or formation of inflammable gases or vapours with: Fluorine, Oxides of phosphorus, RaneynickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metals

# **10.4** Conditions to avoid

Warming. Heat, flames and sparks.

#### **10.5** Incompatible materials

Magnesium, zinc alloys, various plasticsStrong oxidizing agents

#### **10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

#### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

Acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity

No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

**Specific target organ toxicity - repeated exposure** No data available

Aspiration hazard No data available

Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

#### 12.1 Toxicity No data available

- 12.2 Persistence and degradability No data available
- 12.3 Bioaccumulative potential No data available
- 12.4 Mobility in soil No data available
- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects No data available

#### **SECTION 13: Disposal considerations**

#### **13.1 Waste treatment methods**

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

#### **Contaminated packaging**

Dispose of as unused product.

#### **SECTION 14: Transport information**

#### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

#### IMDG

UN number: 1230 No: F-E, S-D Proper shipping name: METHANOLSOLUTION

Class: 3 (6.1)

Packing group: II EMS-

ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

#### **SECTION 15: Regulatory information**

#### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Methanol	CAS-No.	Revision Date
	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components		
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01

#### **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### **SECTION 16: Other information**

#### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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 Version: 0.0
 Revision Date: 12/14/2018
 Print Date: 12/14/2018



# **SAFETY DATA SHEET**

Version 6.0 Revision Date 12/07/2018 Print Date 12/07/2018

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### **1.1 Product identifiers**

Product name	<sup>:</sup> Remifentanil HCl
Product Number	: R-032
Brand	: cerilliant

- **1.2** Relevant identified uses of the substance or mixture and uses advised against Identified uses : Laboratory chemicals, Synthesis of substances

# **1.3** Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Research Biochemicals, Inc 3050 Spruce Street SAINT LOUIS MO 63103 UNITED STATES

#### **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

Hazard statement(s) H225

H225 H301 + H311 + H331

Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled.

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H370	Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No
	smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated
	clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable
	for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal
	plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **SECTION 3: Composition/information on ingredients**

## 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	>= 90 - <=
EC-No.	200-659-6	STOT SE 1; H225, H301,	100 %
Index-No.	603-001-00-X	H331, H311, H370	
Registration	01-2119433307-44-		
number	XXXX		

For the full text of the H-Statements mentioned in this Section, see Section 16.

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# **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed** No data available

# **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2 Special hazards arising from the substance or mixture** Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information

Use water spray to cool unopened containers.

# **SECTION 6: Accidental release measures**

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

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# 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### **6.4 Reference to other sections** For disposal see section 13.

#### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 3: Flammable liquids

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

#### **Components with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption		
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Headache Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption		

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TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential fo	r dermal absorp		
ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits	
Potential for dermal absorption			
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants	
The value i	<u>n mg/m3 is app</u>	roximate.	
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)	
Skin			

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

#### 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# SECTION 9: Physical and chemical properties

# 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
I)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available

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- s) Explosive properties No data available
- t) Oxidizing properties No data available
- **9.2 Other safety information** No data available

### **SECTION 10: Stability and reactivity**

# 10.1 Reactivity

No data available

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
- **10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# **SECTION 11: Toxicological information**

### 11.1 Information on toxicological effects

# Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

**Skin corrosion/irritation** No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity No data available

# Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada



identified as probable, possible or confirmed human carcinogen by IARC.

- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

# **Additional Information**

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

# 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- **12.4 Mobility in soil** No data available

# 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

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# **SECTION 13: Disposal considerations**

# 13.1 Waste treatment methods

## Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

### **Contaminated packaging**

Dispose of as unused product.

# **SECTION 14: Transport information**

### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

# ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

# **SECTION 15: Regulatory information**

# **Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

# **California Prop. 65 Components**

operates as MilliporeSigma in the US and Canada

cerilliant - R-032



This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.0

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada





# **SAFETY DATA SHEET**

Version 6.0 Revision Date 12/07/2018 Print Date 12/07/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1 Product identifiers**

Delevent identified we		of the substance or minture and uses advised and
Product Number Brand	•	R-033 cerilliant
Product name	:	Remifentanil-13C6 HCl

- **1.2** Relevant identified uses of the substance or mixture and uses advised against
  - Identified uses : Laboratory chemicals, Synthesis of substances

# 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Research Biochemicals, Inc 3050 Spruce Street SAINT LOUIS MO 63103 UNITED STATES

# **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

Hazard statement(s) H225 H301 + H311 + H331

Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled.

cerilliant - R-033

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H370	Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No
	smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated
	clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable
	for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal
	plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **SECTION 3: Composition/information on ingredients**

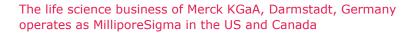
# 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44- XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370	>= 90 - <= 100 %
Remifentanil-13C6	HCI		
		Acute Tox. 1; H300, H330, H310	>= 0.1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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# **SECTION 4: First aid measures**

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- **4.3 Indication of any immediate medical attention and special treatment needed** No data available

### **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2** Special hazards arising from the substance or mixture Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information

Use water spray to cool unopened containers.

# **SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures** Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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For personal protection see section 8.

# 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4** Reference to other sections For disposal see section 13.

# SECTION 7: Handling and storage

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# **7.2** Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# SECTION 8: Exposure controls/personal protection

# 8.1 Control parameters

# **Components with workplace control parameters**

Component	CAS-No.	Value	Control	Basis		
			parameters			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
	Remarks	Headache				
		Nausea				
		Dizziness				
		Eye damage				
		Substances for which there is a Biological Exposure Index				
		or Indices (	see BEI® sectio	n)		
		Danger of o	cutaneous absor	ption		
		STEL	250 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
		Headache				
		Nausea				
		Dizziness				
		Eye damage				
	Substances for which there is a Biological Expo					
		or Indices (	see BEI® sectio	n)		

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Danger o	f cutaneous abso	orption		
TWA	200 ppm	USA. NIOSH Recommended		
 	260 mg/m3	Exposure Limits		
Potential	for dermal absor	ption		
ST	250 ppm	USA. NIOSH Recommended		
	325 mg/m3	Exposure Limits		
Potential	Potential for dermal absorption			
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants		
 The value	e in mg/m3 is ap	proximate.		
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin				
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin	·			
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin				

Hazardous components without workplace control parameters

### **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

SECTION 9: Physical and chemical properties

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

JECI	Section 9. Physical and chemical properties								
9.1	Inf	ormation on basic pl	nysical and chemical properties						
	a)	Appearance	Form: liquid						
	b)	Odour	No data available						
	c)	Odour Threshold	No data available						
	d)	рН	No data available						
	e)	Melting point/freezing point	No data available						
	f)	Initial boiling point and boiling range	No data available						
	g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1						
	h)	Evaporation rate	No data available						
	i)	Flammability (solid, gas)	No data available						
	j)	Upper/lower flammability or explosive limits	No data available						
	k)	Vapour pressure	No data available						
	I)	Vapour density	No data available						
	m)	Relative density	No data available						
	n)	Water solubility	No data available						
	o)	Partition coefficient: n-octanol/water	No data available						
	p)	Auto-ignition temperature	No data available						
	q)	Decomposition temperature	No data available						
	r)	Viscosity	No data available						
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- s) Explosive properties No data available
- t) Oxidizing properties No data available
- **9.2 Other safety information** No data available

### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity** No data available

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
- **10.6 Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5

# **SECTION 11: Toxicological information**

### **11.1** Information on toxicological effects

Acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

Germ cell mutagenicity No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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# **Reproductive toxicity**

No data available No data available

# Specific target organ toxicity - single exposure

No data available

#### **Specific target organ toxicity - repeated exposure** No data available

**Aspiration hazard** No data available

# **Additional Information**

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

- 12.1 Toxicity No data available
- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

### **12.4 Mobility in soil** No data available

- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects

No data available

# SECTION 13: Disposal considerations

# **13.1 Waste treatment methods**

# Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

# **Contaminated packaging**

Dispose of as unused product.

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# **SECTION 14: Transport information**

#### DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

### IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

### ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

# **SECTION 15: Regulatory information**

### **Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

<b>Pennsylvania Right To Know Components</b>	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

#### **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any

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damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Version: 6.0

Revision Date: 12/07/2018

Print Date: 12/07/2018

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# **SAFETY DATA SHEET**

Version 6.0 Revision Date 12/07/2018 Print Date 12/07/2018

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

# **1.1 Product identifiers**

Product name	<sup>:</sup> U-47700-13C3,15N2	
Product Number Brand	: U-013 : cerilliant	

- **1.2** Relevant identified uses of the substance or mixture and uses advised against
  - Identified uses : Laboratory chemicals, Synthesis of substances

# 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Research Biochemicals, Inc 3050 Spruce Street SAINT LOUIS MO 63103 UNITED STATES

# **1.4 Emergency telephone number**

Emergency Phone # : (314) 776-6555

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

# GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Danger

Pictogram



Signal word

Hazard statement(s) H225 H301 + H311 + H331

Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled.

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H370	Causes damage to organs (Eyes).
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No
	smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated
	clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable
	for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant
	foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal
	plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

# **SECTION 3: Composition/information on ingredients**

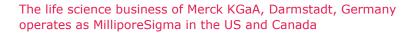
# 3.2 Mixtures

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44- XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370	>= 90 - <= 100 %
U-47700-13C3, 15	N2		
		Acute Tox. 1; H300, H310	>= 0.1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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# **SECTION 4: First aid measures**

# 4.1 Description of first aid measures

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

# In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- **4.3 Indication of any immediate medical attention and special treatment needed** No data available

### **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

**Unsuitable extinguishing media** Do NOT use water jet.

- **5.2** Special hazards arising from the substance or mixture Carbon oxides
- **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information

Use water spray to cool unopened containers.

# **SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures** Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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For personal protection see section 8.

# 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4** Reference to other sections For disposal see section 13.

# SECTION 7: Handling and storage

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

# **7.2** Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 3: Flammable liquids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# SECTION 8: Exposure controls/personal protection

# 8.1 Control parameters

# **Components with workplace control parameters**

components with						
Component	CAS-No.	Value	Control	Basis		
			parameters			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
	Remarks	Headache				
		Nausea				
		Dizziness				
	Eye damage					
		Substances for which there is a Biological Exposure Inde or Indices (see BEI® section)				
		Danger of o	cutaneous absor	ption		
		STEL	250 ppm	USA. ACGIH Threshold Limit		
				Values (TLV)		
		Headache				
		Nausea Dizziness Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section)				

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Danger o	Danger of cutaneous absorption			
TWA	200 ppm	USA. NIOSH Recommended		
 	260 mg/m3	Exposure Limits		
Potential	for dermal absor	ption		
ST	250 ppm	USA. NIOSH Recommended		
	325 mg/m3	Exposure Limits		
Potential	Potential for dermal absorption			
TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants		
 The value	e in mg/m3 is ap	proximate.		
С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin				
PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin				
STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)		
Skin				

Hazardous components without workplace control parameters

### **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

# Personal protective equipment

# Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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# **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# **Respiratory protection**

**SECTION 9: Physical and chemical properties** 

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SLU	Section 5. Physical and chemical properties					
9.1	Inf	Information on basic physical and chemical properties				
	a)	Appearance	Form: liquid			
	b)	Odour	No data available			
	c)	Odour Threshold	No data available			
	d)	рН	No data available			
	e)	Melting point/freezing point	No data available			
	f)	Initial boiling point and boiling range	No data available			
	g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1			
	h)	Evaporation rate	No data available			
	i)	Flammability (solid, gas)	No data available			
	j)	Upper/lower flammability or explosive limits	No data available			
	k)	Vapour pressure	No data available			
	I)	Vapour density	No data available			
	m)	Relative density	No data available			
	n)	Water solubility	No data available			
	o)	Partition coefficient: n-octanol/water	No data available			
	p)	Auto-ignition temperature	No data available			
	q)	Decomposition temperature	No data available			
	r)	Viscosity	No data available			
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- s) Explosive properties No data available
- t) Oxidizing properties No data available
- **9.2 Other safety information** No data available

### **SECTION 10: Stability and reactivity**

# 10.1 Reactivity

No data available

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials** Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
- **10.6 Hazardous decomposition products** Other decomposition products - No data available Hazardous decomposition products formed under fire conditions. - Carbon oxides In the event of fire: see section 5

# **SECTION 11: Toxicological information**

### 11.1 Information on toxicological effects

Acute toxicity No data available

**Skin corrosion/irritation** No data available

Serious eye damage/eye irritation No data available

**Respiratory or skin sensitisation** No data available

### Germ cell mutagenicity

No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is

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on OSHA's list of regulated carcinogens.

# **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

**Specific target organ toxicity - repeated exposure** No data available

# Aspiration hazard

No data available

# Additional Information

RTECS: Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

# **SECTION 12: Ecological information**

- **12.1 Toxicity** No data available
- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available
- **12.4 Mobility in soil** No data available
- 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects

No data available

# SECTION 13: Disposal considerations

# 13.1 Waste treatment methods

# Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

# Contaminated packaging

Dispose of as unused product.

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#### **SECTION 14: Transport information**

## DOT (US)

UN number: 1230 Class: 3 Packing group: II Proper shipping name: MethanolSOLUTION

Reportable Quantity (RQ): Poison Inhalation Hazard: No

#### IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D Proper shipping name: METHANOLSOLUTION

# ΙΑΤΑ

UN number: 1230 Class: 3 (6.1) Packing group: II Proper shipping name: MethanolSOLUTION

## **SECTION 15: Regulatory information**

# Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

# Pennsylvania Right To Know Components

Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01
New Jersey Right To Know Components Methanol	CAS-No. 67-56-1	Revision Date 2007-07-01

# **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

# **SECTION 16: Other information**

### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to

cerilliant - U-013

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appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Version: 6.0

Revision Date: 12/07/2018

Print Date: 12/07/2018

cerilliant - U-013

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada





# **SAFETY DATA SHEET**

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

# **1. PRODUCT AND COMPANY IDENTIFICATION**

1.1	Product identifiers Product name	<sup>:</sup> Valeryl fentanyl HCl
	Product Number Brand	: V-074 : Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

#### 1.4 **Emergency telephone number**

Emergency Phone # :		+1-703-527-3887 (CHEMTREC)
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### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

#### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Valeryl fentanyl			
CAS-No.	117332-91-9	Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 3: Flammable liquids

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 **Control parameters**

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis					
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)					
	Remarks	Substances (see BEI® s Danger of c	Nausea						
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)					
		(see BEI® s	for which there is	s a Biological Exposure Index or Indices					
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits					
		Potential for	r dermal absorptio						
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits					
			Potential for dermal absorption						
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants					
		The value in	n mg/m3 is approx	kimate.					
		C	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)					
		Skin							
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)					
		Skin	- 1						
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)					
		Skin							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis	
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)	
	Remarks	End of shift (As soon as possible after exposure ceases)				

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

#### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
0)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

#### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

#### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

#### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

#### **12. ECOLOGICAL INFORMATION**

#### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

**12.5** Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

#### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

#### **14. TRANSPORT INFORMATION**

#### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - V-074 Packing group: II

Packing group: II

## ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# 15. REGULATORY INFORMATION

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels established	d by SARA Title III, S	ection 313:		
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard				
Massachusetts Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
Pennsylvania Right To Know Components				
	CAS-No.	Revision Date		
Methanol	67-56-1	2007-07-01		
California Prop. 65 Components				
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date		
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16		

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 5.0

Revision Date: 10/30/2018

Print Date: 10/30/2018



# SAFETY DATA SHEET

Version 5.0 Revision Date 10/30/2018 Print Date 10/30/2018

a SIGMA-ALDRICH company

# 1. PRODUCT AND COMPANY IDENTIFICATION

1.1	Product identifiers Product name	:	Valeryl fentanyl-13C6 HCl
	Product Number Brand	•	V-075 Cerilliant

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052

### 1.4 Emergency telephone number

Emergency Phone #	:	+1-703-527-3887 (	(CHEMTREC)	
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# 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Specific target organ toxicity - single exposure (Category 1), Eyes, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s) H225 H301 + H311 + H331 H370	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes).
Precautionary statement(s) P210 P233 P240 P241 P242	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.

P243 P260	Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

# 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

Molecular weight : 32.04 g/mol

#### Hazardous components

Component		Classification	Concentration
Methanol			
CAS-No.	67-56-1	Flam. Liq. 2; Acute Tox. 3;	90 - 100 %
EC-No.	200-659-6	STOT SE 1; H225, H301 +	
Index-No.	603-001-00-X	H311 + H331, H370	
Registration number	01-2119433307-44-XXXX		
Valeryl Fentanyl-13C6 HC	I		
		Acute Tox. 1; H300 + H310 +	0.1 - 1 %
		H330	

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# 5. FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media Dry powder Dry sand

Unsuitable extinguishing media Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

# 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 **Reference to other sections**

For disposal see section 13.

# 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C Storage class (TRGS 510): 3: Flammable liquids

#### Specific end use(s) 7.3

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters** 8.1

# Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis			
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)			
	Remarks	(see BEI® s	s for which there i				
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)			
		(see BEI® s	s for which there i	s a Biological Exposure Index or Indices tion			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential fo	Potential for dermal absorption				
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits			
		Potential fo	Potential for dermal absorption				
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants			
		The value i	n mg/m3 is appro	ximate.			
		С	1,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		PEL	200 ppm 260 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin					
		STEL	250 ppm 325 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)			
		Skin	-				
· · · · ·							

Hazardous components without workplace control parameters

# **Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	-	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (A	s soon as p	ossible after expo	osure ceases)

# 8.2 Exposure controls

# Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	characteristic
c)	Odour Threshold	No data available
d)	рН	No data available
e)	Melting point/freezing point	Melting point: -98.0 °C (-144.4 °F)
f)	Initial boiling point and boiling range	64.0 - 65.0 °C (147.2 - 149.0 °F) at 1,013 hPa (760 mmHg)
g)	Flash point	9.7 °C (49.5 °F) - closed cup - DIN 51755 Part 1
h)	Evaporation rate	6.3 - Diethylether1.9 - n-butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 36.5 %(V) Lower explosion limit: 5.5 %(V)
k)	Vapour pressure	128 hPa (96 mmHg) at 20.0 °C (68.0 °F)
I)	Vapour density	1.11
m)	Relative density	0.79 g/cm3 at 20 °C (68 °F)
n)	Water solubility	soluble
o)	Partition coefficient: n- octanol/water	log Pow: -0.77 at 25 °C (77 °F) - (Lit.), Bioaccumulation is not expected.
p)	Auto-ignition temperature	455.0 °C (851.0 °F) at 1,013 hPa (760 mmHg) - DIN 51794
q)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.

- r) Viscosity 0.54 0.59 mm2/s at 20 °C (68 °F) -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

#### 9.2 Other safety information

Minimum ignition energy0.14 mJConductivity< 1 µS/cm</td>Relative vapour density1.11

## **10. STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No data available

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

Risk of explosion with:Oxidizing agents, Halogens, sodium hypochlorite, sulphuric acid, nitrogen oxides, chlorates, chromium(VI) oxide, chromosulfuric acid, halogen oxides, hydrides, salts of oxyhalogenic acids, perchlorates, perchloric acid, permanganic acid, hydrogen peroxide, zinc diethyl, nonmetallic oxides, powdered magnesium, Nitric acidExothermic reaction with:Risk of ignition or formation of inflammable gases or vapours with:Fluorine, Oxides of phosphorus, Raney-nickelGenerates dangerous gases or fumes in contact with:Alkali metals, Alkaline earth metalsVapours may form explosive mixture with air.

#### 10.4 Conditions to avoid

Warming. Heat, flames and sparks.

#### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

#### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

Acute toxicity No data available

#### Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

#### **Additional Information**

**RTECS:** Not available

Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

#### **12. ECOLOGICAL INFORMATION**

#### 12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- **12.3 Bioaccumulative potential** No data available

#### 12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

# 12.6 Other adverse effects

No data available

# **13. DISPOSAL CONSIDERATIONS**

#### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

#### **14. TRANSPORT INFORMATION**

#### DOT (US)

UN number: 1230 Class: 3 Proper shipping name: Methanol, solution Reportable Quantity (RQ): Poison Inhalation Hazard: No

# IMDG

UN number: 1230 Class: 3 (6.1) Cerilliant - V-075 Packing group: II

Packing group: II

## ΙΑΤΑ

UN number: 1230	Class: 3 (6.1)	Packing group: II
Proper shipping name	: Methanol, solution	

# 15. REGULATORY INFORMATION

## SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels establishe	d by SARA Title III, S	Section 313:	
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
SARA 311/312 Hazards Fire Hazard, Chronic Health Hazard			
Massachusetts Right To Know Components			
-	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
Pennsylvania Right To Know Components			
	CAS-No.	Revision Date	
Methanol	67-56-1	2007-07-01	
California Prop. 65 Components			
, which is/are known to the State of California to cause birth	CAS-No.	Revision Date	
defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Methanol	67-56-1	2012-03-16	

# **16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Acute toxicity
Flammable liquids
Highly flammable liquid and vapour.
Fatal if swallowed, in contact with skin or if inhaled.
Toxic if swallowed.
Toxic if swallowed, in contact with skin or if inhaled.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Specific target organ toxicity - single exposure

Further information

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# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

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