

## SAFETY DATA SHEET

Version 6.3  
Revision Date 05/11/2021  
Print Date 12/30/2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Acetyl norfentanyl-13C6 oxalate solution  
Product Number : A-116  
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 Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES  
Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**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 : Highly flammable liquid and vapor.

Cerilliant - A-116

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|                            |                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------|
| H301 + H311 + H331<br>H370 | Toxic if swallowed, in contact with skin or if inhaled.<br>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/ vapors/ 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.<br>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

Molecular weight : 314.29 g/mol

| Component           |                       | Classification                                                                                                                                                     | Concentration    |
|---------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Methanol</b>     |                       |                                                                                                                                                                    |                  |
| CAS-No.             | 67-56-1               | Flam. Liq. 2; Acute Tox. 3;<br>STOT SE 1; H225, H301,<br>H331, H311, H370<br>Concentration limits:<br>>= 10 %: STOT SE 1,<br>H370; 3 - < 10 %: STOT<br>SE 2, H371; | >= 90 - <= 100 % |
| EC-No.              | 200-659-6             |                                                                                                                                                                    |                  |
| Index-No.           | 603-001-00-X          |                                                                                                                                                                    |                  |
| Registration number | 01-2119433307-44-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

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

### 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

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6: Accidental release measures**

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### **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**

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

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

#### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

#### **Storage stability**

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

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients 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 | Danger of cutaneous absorption  |                      |                                                                                         |
|           |         | STEL                            | 250 ppm              | USA. ACGIH Threshold Limit Values (TLV)                                                 |
|           |         | Danger of cutaneous absorption  |                      |                                                                                         |
|           |         | TWA                             | 200 ppm<br>260 mg/m3 | USA. NIOSH Recommended Exposure Limits                                                  |
|           |         | Potential for dermal absorption |                      |                                                                                         |
|           |         | ST                              | 250 ppm<br>325 mg/m3 | USA. NIOSH Recommended Exposure Limits                                                  |
|           |         | Potential for dermal absorption |                      |                                                                                         |
|           |         | TWA                             | 200 ppm<br>260 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|           |         | STEL                            | 250 ppm<br>325 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                           |
|           |         | Skin notation                   |                      |                                                                                         |
|           |         | TWA                             | 200 ppm<br>260 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                           |
|           |         | Skin notation                   |                      |                                                                                         |
|           |         | C                               | 1,000 ppm            | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|           |         | Skin                            |                      |                                                                                         |
|           |         | PEL                             | 200 ppm<br>260 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|           |         | Skin                            |                      |                                                                                         |
|           |         | STEL                            | 250 ppm<br>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

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

## Personal protective equipment

### Eye/face protection

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

### Skin protection

required

### Body Protection

Flame retardant antistatic protective clothing.

### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                 |                               |
|-------------------------------------------------|-------------------------------|
| a) Appearance                                   | Form: liquid                  |
| b) Odor                                         | No data available             |
| c) Odor Threshold                               | No data available             |
| d) pH                                           | 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 |
| h) Evaporation rate                             | No data available             |
| i) Flammability (solid, gas)                    | No data available             |
| j) Upper/lower flammability or explosive limits | No data available             |
| k) Vapor pressure                               | No data available             |
| l) Vapor 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) Autoignition temperature                     | No data available             |
| 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

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Warming.

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

#### Acute toxicity

Oral: 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 sensitization

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No ingredient 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 ingredient 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

#### **Specific target organ toxicity - single exposure**

Mixture causes damage to organs. - Eyes

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

### **11.2 Additional Information**

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:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

### **Components**

#### **Methanol**

##### **Acute toxicity**

Acute toxicity estimate Oral - 100.1 mg/kg  
(Expert judgment)

Symptoms: Nausea, Vomiting

Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l  
(Expert judgment)

Symptoms: Irritation symptoms in the respiratory tract.

Acute toxicity estimate Dermal - 300.1 mg/kg  
(Expert judgment)

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation

Remarks: (ECHA)

Drying-out effect resulting in rough and chapped skin.

##### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

##### **Respiratory or skin sensitization**

Sensitisation test: - Guinea pig

Result: negative  
(OECD Test Guideline 406)

**Germ cell mutagenicity**

Based on available data the classification criteria are not met.

Ames test

Salmonella typhimurium

Result: negative

In vitro mammalian cell gene mutation test

Chinese hamster lung cells

Result: negative

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Result: negative

**Carcinogenicity**

Did not show carcinogenic effects in animal experiments.

**Reproductive toxicity**

Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

Causes damage to organs. - Eyes, Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute oral toxicity - Nausea, Vomiting

Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Mixture**

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

**Components**

**Methanol**

|                                                     |                                                                                                                        |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | flow-through test LC50 - Lepomis macrochirus (Bluegill) - 15,400.0 mg/l - 96 h (US-EPA)                                |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - Daphnia magna (Water flea) - 18,260 mg/l - 96 h (OECD Test Guideline 202)                      |
| Toxicity to algae                                   | static test ErC50 - Pseudokirchneriella subcapitata (green algae) - ca. 22,000.0 mg/l - 96 h (OECD Test Guideline 201) |
| Toxicity to bacteria                                | static test IC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)                                     |

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### DOT (US)

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

#### IATA

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

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## SECTION 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    |

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    |

**New Jersey Right To Know Components**

|          | CAS-No. | Revision Date |
|----------|---------|---------------|
| Methanol | 67-56-1 | 2007-07-01    |

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**SECTION 16: Other information****Further information**

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](http://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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