# SAFETY DATA SHEET

Version 6.4
Revision Date 02/18/2021
Print Date 02/23/2021

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

### 1.1 Product identifiers

Product name : Lacosamide-$^{13}C$, $D_3$ solution

Product Number : L-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 : Cerilliant Corporation
811 Paloma Drive, Suite A
ROUND ROCK TX 78665
UNITED STATES

### 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 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Eye irritation (Category 2A), H319

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.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.



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

| | |
|---|---|
| H319 | Causes serious eye irritation. |

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. |
| P261 | Avoid breathing 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 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P363 | Wash contaminated clothing before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| 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 : 254.30 g/mol

| Component | | Classification | Concentration |
|---|---|---|---|
| **Acetonitrile** | | | |
| CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | 75-05-8<br>200-835-2<br>608-001-00-3<br>01-2119471307-38-XXXX | Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2A; H225, H302, H332, H312, H319 | >= 90 - <= 100 % |

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



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

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

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

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

**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). 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**
Foam Carbon dioxide (CO2) Dry powder

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

### 5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
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. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.



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

## 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 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.

## 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.

**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

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**



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

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Acetonitrile | 75-05-8 | TWA | 20 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | TWA | 20 ppm<br>34 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | TWA | 40 ppm<br>70 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | The value in mg/m3 is approximate. | | |
| | | PEL | 40 ppm<br>70 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |
| | | STEL | 60 ppm<br>105 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |
| | | TWA | 40 ppm<br>70 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | STEL | 60 ppm<br>105 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

## 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.



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

## 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 | 81 - 82 °C 178 - 180 °F at 1.013 hPa |
| g) | Flash point | 2 °C (36 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: 16 %(V)<br>Lower explosion limit: 4.4 %(V) |
| 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 temperature | No data available |
| 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

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



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

### 10.4 Conditions to avoid
Warming.

### 10.5 Incompatible materials
acids, Bases, Oxidizing agents, Alkali metals

### 10.6 Hazardous decomposition products
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Mixture**

**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**
Mixture causes serious eye irritation.

**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**
No data available

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

**Aspiration hazard**
No data available

### 11.2 Additional Information
Not available



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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Treat as cyanide poisoning., Always have on hand a cyanide first-aid kit, together with proper instructions., The onset of symptoms is generally delayed pending conversion to cyanide., Nausea, Vomiting, Diarrhea, Headache, Dizziness, Rash, Cyanosis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

**Components**

**Acetonitrile**

**Acute toxicity**
LD50 Oral - Mouse - male and female - 617 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Mouse - male and female - 4 h - 6.022 mg/l
(OECD Test Guideline 403)
Acute toxicity estimate Dermal - 1,500 mg/kg
(Expert judgment)
Dermal: No data available

No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Respiratory or skin sensitization**
Buehler Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**

Ames test
S. typhimurium
Result: negative
Remarks:
(ECHA)
In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster ovary cells
Result: Positive results were obtained in some in vitro tests.
Remarks:
(National Toxicology Program)



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

sister chromatid exchange assay
Chinese hamster ovary cells
Result: negative
Remarks:
Sister chromatid exchange
Saccharomyces cerevisiae
Result: positive
Remarks:
Cytogenetic analysis
(ECHA)
In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
OECD Test Guideline 474
Mouse - male and female
Result: negative

**Carcinogenicity**
No evidence of carcinogenicity in animal studies.

**Reproductive toxicity**
Animal testing did not show any effects on fertility.

**Specific target organ toxicity - single exposure**
The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Specific target organ toxicity - repeated exposure**
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**
No aspiration toxicity classification

## 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



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

**Components**

**Acetonitrile**

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 - Pimephales promelas (fathead minnow) - 1,640 mg/l - 96 h<br>Remarks: (ECHA) |
| Toxicity to algae | static test NOEC - Phaeodactylum tricornutum - 400 mg/l - 72 h<br>(ISO 10253) |
| | static test ErC50 - Phaeodactylum tricornutum - 9,696 mg/l - 72 h<br>(ISO 10253) |
| Toxicity to bacteria | |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**

Waste material must be disposed of in accordance with the national and loc No mixing with other waste. Handle uncleaned containers like the product See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## SECTION 14: Transport information

**DOT (US)**

UN number: 1648 Class: 3 Packing group: II
Proper shipping name: AcetonitrileSOLUTION

Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**

UN number: 1648 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: ACETONITRILESOLUTION

**IATA**

UN number: 1648 Class: 3 Packing group: II
Proper shipping name: AcetonitrileSOLUTION

## SECTION 15: Regulatory information

**SARA 302 Components**

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

**SARA 313 Components**



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

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

| | CAS-No. | Revision Date |
|---|---|---|
| Acetonitrile | 75-05-8 | 2007-07-01 |

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetonitrile | 75-05-8 | 2007-07-01 |

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

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetonitrile | 75-05-8 | 2007-07-01 |

**New Jersey Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetonitrile | 75-05-8 | 2007-07-01 |

## 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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
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: 6.4 Revision Date: 02/18/2021 Print Date: 02/23/2021



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