

Creation Date 12-Sep-2014

Revision Date 13-Oct-2023

Revision Number 4

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

|                             |   |
|-----------------------------|---|
| <b>Product Description:</b> | <b><u>L-Methionine</u></b>                |
| <b>Cat No. :</b>            | <b>BP388-100</b>                          |
| <b>Synonyms</b>             | L-2-Amino-4-(methylthio)butyric acid; Met |
| <b>CAS No</b>               | 63-68-3                                   |
| <b>Molecular Formula</b>    | C5 H11 N O2 S                             |

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

|                             |                          |
|-----------------------------|--------------------------|
| <b>Recommended Use</b>      | Laboratory chemicals.    |
| <b>Uses advised against</b> | No Information available |

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

#### Company

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a, 2440 Geel,  
Belgium

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road,  
Loughborough, Leicestershire LE11 5RG,  
United Kingdom

**Swiss distributor - Fisher Scientific AG**  
Neuhofstrasse 11, CH 4153 Reinach  
Tel: +41 (0) 56 618 41 11  
e-mail - infoch@thermofisher.com

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:  
Tox Info Suisse Emergency Number: **145 (24hr)**  
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)  
Chemtrec (24h) Toll-Free: 0800 564 402  
Chemtrec Local: +41-43 508 20 11 (Zurich)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

ACRBP388

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## CLP Classification - Regulation (EC) No 1272/2008

### Physical hazards

Based on available data, the classification criteria are not met

### Health hazards

Based on available data, the classification criteria are not met

### Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements

### **Hazard Statements**

May form combustible dust concentrations in air

### **Precautionary Statements**

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

May form explosive dust-air mixture if dispersed

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.1. Substances

| Component    | CAS No  | EC No             | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|--------------|---------|-------------------|----------|---|
| L-Methionine | 63-68-3 | EEC No. 200-562-9 | 98       | -   |

Full text of Hazard Statements: see section 16

## **SECTION 4: FIRST AID MEASURES**

### 4.1. Description of first aid measures

#### **Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

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medical attention.

## Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

## Ingestion

Do NOT induce vomiting. Get medical attention.

## Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.

## Self-Protection of the First Aider

No special precautions required.

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

No information available.

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

## Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

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

Dust can form an explosive mixture with air. Fine dust dispersed in air may ignite.

#### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Sulfur oxides.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Ensure adequate ventilation.

### 6.2. Environmental precautions

See Section 12 for additional Ecological Information.

### 6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

### 6.4. Reference to other sections

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Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe dust. Minimize dust generation and accumulation.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep refrigerated.

### Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)

Storage Class/LGK 11

### Switzerland - Storage of hazardous substances

Storage class - SC 11/13  
<https://www.kvu.ch/de/themen/stoffe-und-produkte>  
<https://www.kvu.ch/fr/themes/substances-et-produits>  
<https://www.kvu.ch/it/temi/sostanze-e-prodotti>

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

### Exposure limits

List source(s):

| Component    | Latvia                   | Lithuania | Luxembourg | Malta | Romania |
|--------------|--------------------------|-----------|------------|-------|---------|
| L-Methionine | TWA: 5 mg/m <sup>3</sup> |           |            |       |         |

### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

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## Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

| Component                      | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|--------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| L-Methionine<br>63-68-3 ( 98 ) |                              |                                 |                                | DNEL = 156.5mg/kg<br>bw/day       |

| Component                      | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| L-Methionine<br>63-68-3 ( 98 ) |                                  |                                     |                                    | DNEL = 110.4mg/m <sup>3</sup>         |

## Predicted No Effect Concentration (PNEC)

See values below.

| Component                      | Fresh water      | Fresh water sediment                | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture)           |
|--------------------------------|------------------|-------------------------------------|--------------------|------------------------------------|------------------------------|
| L-Methionine<br>63-68-3 ( 98 ) | PNEC = 0.162mg/L | PNEC =<br>0.585mg/kg<br>sediment dw | PNEC = 1.62mg/L    | PNEC = 1000mg/L                    | PNEC =<br>0.022mg/kg soil dw |

| Component                      | Marine water         | Marine water sediment                | Marine water Intermittent | Food chain | Air |
|--------------------------------|----------------------|--------------------------------------|---------------------------|------------|-----|
| L-Methionine<br>63-68-3 ( 98 ) | PNEC =<br>0.0162mg/L | PNEC =<br>0.0585mg/kg<br>sediment dw |                           |            |     |

## 8.2. Exposure controls

### Engineering Measures

None under normal use conditions.

### Personal protective equipment

#### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

#### Hand Protection

Protective gloves

| Glove material                                      | Breakthrough time                    | Glove thickness | EU standard | Glove comments        |
|---|--------------------------------------|-----------------|-------------|-----------------------|
| Nitrile rubber<br>Neoprene<br>Natural rubber<br>PVC | See manufacturers<br>recommendations | -               | EN 374      | (minimum requirement) |

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### Respiratory Protection

No protective equipment is needed under normal use conditions.

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particle filter

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Small scale/Laboratory use      Maintain adequate ventilation

Environmental exposure controls      No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|   |                                   |                                   |
|---|-----------------------------------|-----------------------------------|
| Physical State                          | Solid                             |                                   |
| Appearance                              | White                             |                                   |
| Odor                                    | Slight                            |                                   |
| Odor Threshold                          | No data available                 |                                   |
| Melting Point/Range                     | 276 - 279 °C / 528.8 - 534.2 °F   |                                   |
| Softening Point                         | No data available                 |                                   |
| Boiling Point/Range                     | No information available          |                                   |
| Flammability (liquid)                   | Not applicable                    | Solid                             |
| Flammability (solid,gas)                | No information available          |                                   |
| Explosion Limits                        | No data available                 |                                   |
| Flash Point                             | No information available          | Method - No information available |
| Autoignition Temperature                | No data available                 |                                   |
| Decomposition Temperature               | No data available                 |                                   |
| pH                                      | 5.5-6.5                           |                                   |
| Viscosity                               | Not applicable                    | Solid                             |
| Water Solubility                        | SOLUBLE IN WATER: 53.7 G/L (20°C) |                                   |
| Solubility in other solvents            | No information available          |                                   |
| Partition Coefficient (n-octanol/water) |                                   |                                   |
| Component                               | log Pow                           |                                   |
| L-Methionine                            | -1.87                             |                                   |
| Vapor Pressure                          | No data available                 |                                   |
| Density / Specific Gravity              | No data available                 |                                   |
| Bulk Density                            | No data available                 |                                   |
| Vapor Density                           | Not applicable                    | Solid                             |
| Particle characteristics                | No data available                 |                                   |

### 9.2. Other information

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | C5 H11 N O2 S          |
| Molecular Weight  | 149.21                 |
| Evaporation Rate  | Not applicable - Solid |

## SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity  
None known, based on information available

10.2. Chemical stability  
Stable under normal conditions. Air sensitive.

### 10.3. Possibility of hazardous reactions

Hazardous Polymerization      Hazardous polymerization does not occur.  
Hazardous Reactions      No information available.

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## 10.4. Conditions to avoid

Incompatible products.

## 10.5. Incompatible materials

Strong oxidizing agents.

## 10.6. Hazardous decomposition products

Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulfur oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

##### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

No data available

Inhalation

No data available

| Component    | LD50 Oral              | LD50 Dermal | LC50 Inhalation |
|--------------|------------------------|-------------|-----------------|
| L-Methionine | LD50 = 36 g/kg ( Rat ) | -           | -               |

##### (b) skin corrosion/irritation;

No data available

##### (c) serious eye damage/irritation;

No data available

##### (d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

##### (e) germ cell mutagenicity;

No data available

##### (f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

##### (g) reproductive toxicity;

No data available

##### (h) STOT-single exposure;

No data available

##### (i) STOT-repeated exposure;

No data available

Target Organs

No information available.

##### (j) aspiration hazard;

Not applicable

Solid

#### Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed  
No information available.

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## 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects

### 12.2. Persistence and degradability

**Persistence**

Soluble in water, Persistence is unlikely, based on information available.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

| Component    | log Pow | Bioconcentration factor (BCF) |
|--------------|---------|-------------------------------|
| L-Methionine | -1.87   | No data available             |

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

### 12.6. Endocrine disrupting properties

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

### 12.7. Other adverse effects

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues/Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging**

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**European Waste Catalogue (EWC)**

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used.



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## Switzerland - Waste Ordinance

Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600  
<https://www.fedlex.admin.ch/eli/cc/2015/891/en>

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### ADR

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### IATA

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

#### 14.5. Environmental hazards

No hazards identified

#### 14.6. Special precautions for user

No special precautions required.

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component    | CAS No  | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|--------------|---------|-----------|--------|-----|-------|------|----------|------|------|
| L-Methionine | 63-68-3 | 200-562-9 | -      | -   | X     | X    | KE-01485 | X    | X    |

| Component    | CAS No  | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|--------------|---------|------|---|-----|------|------|-------|-------|
| L-Methionine | 63-68-3 | X    | ACTIVE  | X   | -    | X    | X     | X     |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### Authorisation/Restrictions according to EU REACH

Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances | REACH (1907/2006) - Annex XVII - Restrictions | REACH Regulation (EC 1907/2006) article 59 - |
|-----------|--------|--|---|--|
|-----------|--------|--|---|--|

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|              |         | Subject to Authorization | on Certain Dangerous Substances | Candidate List of Substances of Very High Concern (SVHC) |
|--------------|---------|--------------------------|---------------------------------|--|
| L-Methionine | 63-68-3 | -                        | -                               | -  |

## Seveso III Directive (2012/18/EC)

| Component    | CAS No  | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|--------------|---------|---|--|
| L-Methionine | 63-68-3 | Not applicable  | Not applicable   |

**Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals**

Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## WGK Classification

See table for values

| Component    | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|--------------|---------------------------------------|-------------------------|
| L-Methionine | WGK1                                  |                         |

## Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

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

#### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

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**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (volatile organic compound)

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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**Revision Summary**

Not applicable.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 .**

**For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**