SAFETY DATA SHEET

In accordance with 1907/2006 annex II and 1272/2008 and 878/2020
(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2025.01.07
Version number 1.0

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

1.1. Product identifier

Trade name	Tetranoic acid
CAS No	107-92-6

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

Identified uses	Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Company	Larodan AB Karolinska Institutet Science Park, Scheeles väg 5 171 65 Solna Sweden
Telephone	0046 20 152200
E-mail	info@larodan.com
Website	www.larodan.com

1.4. Emergency telephone number

Phone number for emergencies: 999 or 112. The numbers are available 24/7.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Upon assessment, this substance is not classified as hazardous according to 1272/2008

2.2. Label elements

Hazard pictogram	Not applicable
Signal word	Not applicable
Hazard statement	Not applicable

2.3. Other hazards

Not indicated.

SECTION 3: Composition/information on ingredients

3.1. Substances

Constituent	Classification	Concentration
Tetranoic acid		
CAS No: 107-92-6		>99%

Synonyms: 1-Propanecarboxylic acid, n-Butyric acid, Ethylacetic acid, Butyric acid, n-Butanoic acid

Molecular formula: $C_4H_8O_2$
Molecular weight: 88.11

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b.

SECTION 4: First aid measures

4.1. Description of first aid measures Generally

In case of concern, or if symptoms persist, call a doctor/physician.

Upon breathing in

Allow the injured person to rest in a warm place with fresh air, if symptoms persist seek medical attention.

Upon eye contact

If dust has come in contact with eyes, do not rub.
Rinse the eye for several minutes with lukewarm water. If irritation persists call a doctor/ophthalmologist.

Upon skin contact

Remove contaminated clothes.
Wash the skin with soap and water.
If symptoms occur, contact a physician.

Upon ingestion

Rinse nose, mouth and throat with water.
Upon ingestion of larger amounts, consult a doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed Upon eye contact

Irritation may occur due to mechanical abrasion.

Upon ingestion

Ingestion of larger quantities of the product may cause nausea and vomiting.

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

Symptomatic treatment.
When contacting a physician, take this SDS with you.

SECTION 5: Firefighting measures

5.1. Extinguishing media Recommended extinguishing agents

Extinguish with water mist, powder, carbon dioxide or alcoholresistant foam.

Unsuitable extinguishing agents

May not be extinguished with water dispersed under high pressure.

5.2. Special hazards arising from the substance or mixture

Produces fumes containing harmful gases (carbon monoxide and carbon dioxide) when burning.

5.3. Advice for firefighters

Protective measures should be taken regarding other material at the site of the fire. In case of fire use proper breathing apparatus.
Wear full protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep unauthorized and unprotected people at a safe distance.
Avoid inhalation and exposure to skin and eyes.
Avoid dust formation.
Ensure good ventilation.
Use recommended safety equipment, see section 8.

6.2. Environmental precautions

Avoid release to drains, soil or watercourses.

6.3. Methods and material for containment and cleaning up

Carefully collect the product without generating dust and dispose of at a waste collection point.
Rinse area thoroughly with water.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Take the necessary preventive and protective measures for safe handling.
Avoid inhalation and contact with skin and eyes.
Avoid handling in a manner which will raise dust.
Work in order to avoid spillage. If spillage does occur, address it immediately in accordance with the directions specified in Section 6 of this safety data sheet.
Store this product separately from food items and keep it out of the reach of children and pets.
Do not eat, drink or smoke in premises where this product is handled.
Wash your hands after using the product.
Remove contaminated clothing.
Wash contaminated clothing before reuse.
Keep away from incompatible products.
Use recommended safety equipment, see section 8.
Implement appropriate engineering controls if necessary, see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored in a manner which prevents hazards to health and the environment.
Avoid exposure to humans and animals and do not discharge the product in a sensitive environment.
Take the necessary preventive and protective measures for safe storage.
Keep out of reach for children.
Store separately from food and animal fodder, incl. utensils or surfaces which have been in contact with these things.
Always use sealed and visibly labeled packages.
Store tightly, in original packaging.
Store in dry and coold area.
Store in a well-ventilated space.
Do not store close to incompatible materials (see section 10.5).

7.3. Specific end use(s)

See identified uses in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National limit values Dust

United Kingdom (EH40/2005)

Time-weighted-average exposure limit (TWA) 10 mg/m³ (Inhalable dust) / 4 mg/m³ (Respirable dust)

DNEL No data available.

PNEC No data available.

8.2. Exposure controls

The risks posed by the product or its constituents must be considered in the task specific risk assessment, in accordance with current working environment legislation. The risk assessment should be reviewed regularly and updated if necessary.

8.2.1. Appropriate engineering controls

The ventilation in the workplace must ensure an air quality that meets the requirements of the current working environment legislation. Local exhaust ventilation should be used to remove airborne contaminants at the source.

Eye/face protection

Eye protection according to standard EN166 should be worn if there is any danger of direct exposure or splashing.

Skin protection

Wear suitable protective clothing when necessary.
Protective gloves are normally not needed due to the properties of this product, but may be necessary for other reasons, e.g. mechanical risks, temperature conditions or microbiological risks. The most suitable protective glove should be chosen in consultation with the glove supplier, taking into account the risk assessment for the specific task and the properties of the chemicals involved. Note that the breakthrough time of the material is affected by the duration of the exposure, temperature conditions, abrasion, etcetera.

Respiratory protection

Respiratory protective equipment is not normally required when working with this product, given that adequate ventilation is provided.

The most appropriate respiratory protective equipment should be decided in consultation with the appointed safety representative, taking into account the risk assessment for the specific task.

8.2.3. Environmental exposure controls

For limitation of environmental exposure, see Section 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	Liquid Form: oil
(b) Colour	colorless
(c) Odour	scentless
(d) Melting point/freezing point	-7.9 °C
(e) Boiling point or initial boiling point and boiling range	165.5 °C Press: 760 Torr
(f) Flammability	Not indicated
(g) Lower and upper explosion limit	Not indicated
(h) Flash point	Not indicated
(i) Auto-ignition temperature	Not indicated
(j) Decomposition temperature	Not indicated
(k) pH	Not indicated
(l) Kinematic viscosity	Not indicated
(m) Solubility	Solubility in water: Insoluble
(n) Partition coefficient n-octanol/water (log value)	Not indicated
(o) Vapour pressure	Not indicated
(p) Density and/or relative density	0.9577 g/cm³ Temp: 20 °C
(q) Relative vapour density	Not indicated
(r) Particle characteristics	Not indicated

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not indicated

9.2.2. Other safety characteristics

Not indicated

SECTION 10: Stability and reactivity

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

At normal handling and use, hazardous reactions will not occur.

10.4. Conditions to avoid

None in particular.

10.5. Incompatible materials

Avoid contact with the oxidising agent.

10.6. Hazardous decomposition products

Does not decompose to hazardous substances.

SECTION 11: Toxicological information

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

Information on possible health hazards are based on experience and / or toxicological properties of several components in the product.

Acute toxicity

The product is not classified as acutely toxic.

Skin corrosion/irritation

The product is not classified for skin corrosion/irritation.

Serious eye damage/irritation

The product is not classified for serious eye damage/eye irritation.

Respiratory or skin sensitisation

The product is not classified as sensitising.

Germ cell mutagenicity

The product is not classified as mutagen.

Carcinogenicity

The product is not classified as carcinogenic.

Reproductive toxicity

The product is not classified as a reproductive toxicant.

STOT-single exposure

The product is not classified for specific organ toxicity after single exposure.

STOT-repeated exposure

The product is not classified for specific organ toxicity after repeated exposure.

Aspiration hazard

The product is not classified as being toxic for aspiration.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No information is available.

11.2.2. Other information

Not indicated.

SECTION 12: Ecological information

12.1. Toxicity

The product is not to be labelled as a environmental hazard. However, it is not inconceivable that large emissions, or repeated small emissions, can have a harmful effect on the environment.
Prevent release on land, in water and drains.

12.2. Persistence and degradability

The components of the product degrades in the natural environment.

12.3. Bioaccumulative potential

There is no information regarding bioaccumulation.

12.4. Mobility in soil

Information about mobility in nature is not available.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been prepared.

12.6. Endocrine disrupting properties

No information is available.

12.7. Other adverse effects

No known effects or hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste handling of the product

Avoid discharge into sewers.
The product is not classified as hazardous waste.
Empty, rinsed packaging is sent for recycling where practicable.
See directive 2008/98/EC on waste. Observe national or regional provisions on waste management.

SECTION 14: Transport information

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number or ID number

Not classified as dangerous goods

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

14.8 Other transport information

Not applicable

SECTION 15: Regulatory information

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

Not indicated.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: Other information

16a. Indication of where changes have been made to the previous version of the safety data sheet Revisions of this document

This is the first version

16b. Legend to abbreviations and acronyms used in the safety data sheet Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road RID Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG International Maritime Dangerous Goods Code
ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada) IATA The International Air Transport Association

16c. Key literature references and sources for data
Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2023-07-04.
Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion. If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

1907/2006	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
1272/2008	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
EH40/2005	EH40/2005 Workplace exposure limits
2008/98/EC	DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I , where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI .

16e. List of relevant hazard statements and/or precautionary statements

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment Warning for misuse

Not indicated.

Other relevant information

Not indicated

Editorial information