

Dithiothreitol (DTT)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/06/2021

Revision date: 04/06/2021

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : DTT
Synonyms : DL-Dithiothreitol, Cleland's Reagent

1.2. Recommended use and restrictions on use

Recommended use : Research purposes only
Restrictions on use : Not for use in humans

1.3. Supplier

OPS Diagnostics
291 Route 22 East Building 6
Lebanon, NJ 08833
T 908-253-3444 - F 908-575-1660
info@opsdx.com - www.opsdiagnostics.com

1.4. Emergency telephone number

Emergency number : 908-253-3444

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute Toxicity, Oral (Category 4)
Acute Aquatic Toxicity (Category 3)
Chronic Aquatic Toxicity (Category 3)

2.2. GHS Label elements, including precautionary statements

GHS US labeling



Precautionary Statements

P264 : Wash skin thoroughly after handling
P270 : Do not eat, drink, or smoke when using this product
P273 : Avoid release to the environment
P301+312 : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 : Rinse mouth
P501 : Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards which do not result in classification

H302 : Harmful if swallowed
H412 : Harmful to aquatic life with long lasting effects

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

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4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| First-aid measures after skin contact | : Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Call a poison center/doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Immediate medical attention and special treatment, if necessary

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. |
| Unsuitable extinguishing media | : Not determined. |

5.2. Specific hazards arising from the chemical

Reactivity : During a fire, highly toxic gases may be generated by thermal decomposition or combustion – Carbon oxides, sulfur oxides.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid breathing vapors, mist or has. Ensure adequate ventilation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with absorbent material, discard.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Always wear personal protective equipment. |
| Hygiene measures | : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed in a dry and well-ventilated place. Store desiccated at -20°C.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Contains no substances with occupational exposure limit values.

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8.2. Appropriate engineering controls

Appropriate engineering controls : Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|---|-----------------------------|
| Physical state | : | |
| Appearance | : | White powder |
| Color | : | White |
| Odor | : | Unpleasant |
| Odor threshold | : | No data available |
| pH | : | 4.0-6 at 15.4 g/l at 25°C |
| Melting point | : | 41-44°C |
| Freezing point | : | 41-44°C |
| Boiling point | : | No data available |
| Flash point | : | 113°C closed cup |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | Non flammable. |
| Vapor pressure | : | No data available |
| Relative vapor density at 20 °C | : | No data available |
| Relative density | : | Not applicable |
| Solubility | : | Soluble in water – 0.05 g/l |
| Log Pow | : | 0.05 |
| Auto-ignition temperature | : | Not applicable |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | Not applicable |
| Viscosity, dynamic | : | No data available |
| Explosion limits | : | Not applicable |

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Explosive properties : No data available

Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Not available.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Unknown.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : DTT (Dithiothreitol) Oral: LD50 (Rat) = 400mg/kg (RTECS)

Skin corrosion/irritation : May cause skin irritation

Serious eye : Not classified

damage/irritation

Respiratory or skin : Not classified

sensitization

Germ cell mutagenicity : Not classified

Carcinogenicity :

| | |
|-------|---|
| IARC | No component of this product present at levels greater than or equal to 0.1% is identified as probably, 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 probable, possible, or confirmed human carcinogen by ACGIH. |
| NTP | 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 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 : Not available

Specific target organ toxicity – single exposure : Not available

Specific target organ toxicity – repeated : Not available

Aspiration hazard : Not available

Symptoms/effects : Nausea, Headache, Vomiting, Central nervous depression, to the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

Ecology – general : Toxicity to daphnia and other aquatic invertebrates
LC50 - Daphnia magna (Water flea) - 27 mg/l 48 h.

12.2. Persistence and degradability

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Persistence and degradability : Not available.

12.3. Bioaccumulative potential

Bioaccumulative potential : Does not bioaccumulate.

12.4. Mobility in soil

Mobility in soil : Not available

12.5. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with local rules and regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

This material is considered to be non-hazardous for transport.

Transport by sea

This material is considered to be non-hazardous for transport.

Air transport

This material is considered to be non-hazardous for transport

SECTION 15: Regulatory information

15.1. US Federal regulations

| | |
|-----------------------|---|
| SARA 302 Components | SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302 |
| SARA 313 Components | SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III Section 313 |
| SARA 311/312 Hazards: | No SARA Hazards |

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

15.3. US State regulations

| | |
|---|---|
| U.S. - California - Proposition 65 - Other information | California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |

SECTION 16: Other information

Revision date : 04/06/2021

Other information : **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product