

MATERIAL SAFETY DATA SHEET

DL-Dithiothrietol

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: DL-Dithiothrietol Date: 22nd July 2015 Version: Discofinechem2
Company: Discovery Fine Chemicals Ltd
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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Oral (Category 4)

Skin irritation (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful if swallowed. Irritating to eyes, respiratory system and skin.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements - none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrases(s)

R22 Harmful if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : threo-1,4-Dimercapto-2,3-butanediol, Cleland's reagent, DTT

Formula : C₄H₁₀O₂S₂ Molecular Weight : 154.25 g/mol

Component - (R*,R*)-1,4-Dimercaptobutane-2,3-diol

Cas No:3483-12-3 E.C.No:222-468-7 Concentration:-

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice - Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled - If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact - Wash off with soap and plenty of water. Consult a physician.

In case of eye contact - Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed - Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Nausea, Headache, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed - no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture - Carbon oxides, Sulphur oxides

5.3 Advice for firefighters - Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information - no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions - Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up - Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections - For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

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

Recommended storage temperature: 2 - 8 °C

7.3 Specific end uses - no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls - Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection - Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection - Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection - Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection - For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: powder; Colour: white

b) Odour - unpleasant

c) Odour Threshold - no data available

- d) pH - 4.0 - 6 at 15.4 g/l at 25 °C
- e) Melting point/freezing point - Melting point/range: 41 - 44 °C
- f) Initial boiling point and boiling range - no data available
- g) Flash point - 113 °C - 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) Vapour pressure - no data available
- l) Vapour density - no data available
- m) Relative density - no data available
- n) Water solubility - 15.4 g/l at 20 °C
- o) Partition coefficient: noctanol/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

10. STABILITY AND REACTIVITY

10.1 Reactivity - no data available

10.2 Chemical stability - no data available

10.3 Possibility of hazardous reactions - no data available

10.4 Conditions to avoid - no data available

10.5 Incompatible materials - Bases, Oxidizing agents, Reducing agents, Alkali metals

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - LD50 Oral - rat - 400 mg/kg

Inhalation: 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 component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity - no data available

Specific target organ toxicity - single exposure - Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure - no data available

Aspiration hazard - no data available

Potential health effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion: Harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes serious eye irritation.

Signs and Symptoms of Exposure: Nausea, Headache, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information - RTECS: EK1610000

12. ECOLOGICAL INFORMATION

12.1 Toxicity - no data available

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

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 - no data available

12.6 Other adverse effects - no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product - Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging - Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: - IMDG: - IATA: 3335

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Aviation regulated solid, n.o.s. ((R*,R*)-1,4-Dimercaptobutane-2,3-diol)

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: 9

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user - no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment - no data available

16. OTHER INFORMATION

Further information

Text of H-code(s) and R-phrase(s) mentioned in Section 3

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

R22 Harmful if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

WARRANTY

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.

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