



RESEARCH-LAB FINE CHEM INDUSTRIES

An ISO 9001:2008 certified company

MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

Product Name : DITHIOTHREITOL

Synonyms: (D.T.T.) (Cleland's Reagent)

CAS No.: 3483-12-3

Molecular Weight: 154.24

Chemical Formula: $C_4H_{10}O_2S_2$

Product Codes: 2251D

Brand : RESEARCH-LAB

Company Identification :-

MARKETING OFFICE :

1, Devkaran Mansion, 3rd Floor, 79, Princess Street,

MUMBAI-400 002. (Maharashtra, India)

•Telefax : (022) 2206 2623/2203 5501.

e-mail : researchlab.salunkhe@gmail.com, info@researchlab.in

Section 2 - Composition, Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Dithiothreitol	3483-12-3	99%	Yes

Section 3 - Hazardous Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), H335

Section 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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Section 5 - Fire Fighting 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, Hydrogen sulfide gas

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

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

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

For personal protection see section 8.

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

Section 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.

For precautions see section 2.2.

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 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

Components with workplace control parameters

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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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).

Control of environmental exposure

Do not let product enter drains.

Section 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 - lit.

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: octanol/water : no data available
- p) Auto-ignition 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 avail

Section 10 - Stability and Reactivity

10.1 Reactivity : no data available

10.2 Chemical stability

May decompose on exposure to moist air or water.

Stable under recommended storage conditions.

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

In the event of fire: see section 5

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 400 mg/kg

Inhalation: no data available

Skin corrosion/irritation

The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.

Serious eye damage/eye irritation

The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.

Respiratory or skin sensitisation 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

Additional Information

RTECS: EK1610000

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

Liver - Irregularities - Based on Human Evidence

Section 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects no data available

Section 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.

Section 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: III

14.5 Environmental hazards

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

14.6 Special precautions for user

no data available

Section 15 - Regulatory Information

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

Section 16 - Additional Information

Not Regulated