

# Material Safety Data Sheet (MSDS)

Prepared according to Regulation EC No. 1907/2006  
Revision date: 03.04.2023

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

Product name: **DTT, DTT RTU(dithiothreitol)**

Product number: 2010-5, 2010-25, 2010-10P, 2010-P-D

Relevant identified uses: laboratory chemical, for R&D use only.

Uses advised against: undefined

Supplier:

A&A Biotechnology

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Emergency number: 112

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline

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

Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### Classification and labelling according to regulation (EC) No. 1272/2008



**WARNING**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

P261 Avoid breathing dust.

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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Threo-1,4-Dimercapto-2,3-butanediol

Cleland's reagent

Formula: C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>S<sub>2</sub>

Molecular weight : 154,25 g/mol

CAS no : 3483-12-3

EC no: 222-468-7

Concentration: <= 100 %

No components need to be disclosed according to the applicable regulations.

#### 4. FIRST AID MEASURES

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

**If inhaled:** If breathed in, move the 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.

#### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture:** Carbon oxides, Sulphur oxides

**Advice for firefighters:** In the event of fire, wear self-contained breathing apparatus.

#### 6. ACCIDENTAL RELEASE MEASURES

**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.

**Environmental precautions:** Do not let products enter drains.

**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.

#### 7. HANDLING AND STORAGE

**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.

**Conditions for safe storage:** Store in a cool place. Keep the container tightly closed in a dry and well-ventilated place.

**Recommended storage temperature:** 2-8 °C.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters:** Components with workplace control parameters

##### 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 the 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

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Form: powder or liquid
<b>Odour:</b>	unpleasant
<b>pH</b>	4,0 - 6 at 15,4 g/l at 25 °C
<b>Melting point/freezing point</b>	Melting point/range: 41 - 44 °C - lit.
<b>Initial boiling point and boiling range</b>	no data available
<b>Flash point</b>	113 °C - closed cup
<b>Evaporation rate</b>	no data available
<b>Flammability (solid, gas)</b>	no data available
<b>Upper/lower flammability or explosive limits</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Vapour density</b>	no data available
<b>Relative density</b>	no data available
<b>Water solubility</b>	15,4 g/l at 20 °C
<b>Decomposition temperature</b>	no data available
<b>Viscosity</b>	no data available
<b>Oxidizing properties</b>	no data available
<b>Particle characteristics</b>	not applicable

#### **Other information:**

No data

### **10. STABILITY AND REACTIVITY**

**Reactivity:** No data available

**Stability:** May decompose on exposure to moist air or water. Stable under recommended storage conditions.

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** No data available

**Incompatible materials:** Bases, Oxidizing agents, Reducing agents, Alkali metals

**Hazardous decomposition products:** Other decomposition products - No data available

### **11. TOXICOLOGICAL INFORMATION**

**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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Endocrine disrupting properties**

None of the ingredients are listed.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12. ECOLOGICAL INFORMATION**

<b>Toxicity:</b>	Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia magna (Water flea) - 27 mg/l - 48 h
<b>Persistence and degradability:</b>	no data available
<b>Bioaccumulative potential:</b>	no data available
<b>Mobility in soil:</b>	no data available
<b>Results of PBT and vPvB assessment:</b>	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
<b>Endocrine disrupting properties:</b>	None of the ingredients are listed.
<b>Other adverse effects:</b>	no data available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods:** This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Waste treatment of containers/packaging:** It is a dangerous waste; only packages which are approved (e.g. acc. to ADR) may be used.

**Relevant provisions relating to waste:** The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. W

**Sewage disposal-relevant information:** Do not empty into drains. Avoid release to the environment.

**Remarks:** Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

