

04/06/2023

### Kit Components

Product code	Description
<b>V3151</b>	<b>DTT (Dithiothreitol)</b>
Components:	
V315	DTT (DL-Dithiothreitol) Dry Powder



**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 04/06/2023

Reviewed on 04/06/2023

**1 Identification****Product identifier****Trade name:** DTT (DL-Dithiothreitol)**Article number:** V315**CAS Number:**

3483-12-3

**EC number:**

222-468-7

**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

**Information department:** SDS author: [chemicalregulatory@promega.com](mailto:chemicalregulatory@promega.com)**Emergency telephone number:**

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

**2 Hazard(s) identification****Classification of the substance or mixture**

GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

Skin Irritation 2

H315 Causes skin irritation.

**Label elements****GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 1)

**Hazard pictograms**

GHS05 GHS07

**Signal word** Danger**Hazard-determining components of labeling:**

DL-Dithiothreitol

**Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye damage.

**Precautionary statements**

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear eye protection / face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

Immediately call a poison center/doctor.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 1

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = \*3

Fire = 1

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**

Toxic

Highly Toxic

Irritant

**Primary route(s) of entry:**

Dermal

Inhalation

Oral

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

Affects Pulmonary system (Lungs)

**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 2)

## 3 Composition/information on ingredients

**Chemical characterization: Substances****CAS No. Description**

3483-12-3 DL-Dithiothreitol

**EC number:** 222-468-7

## 4 First-aid measures

**Description of first aid measures****General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:**

Immediately call a doctor.

Seek immediate medical advice.

**Information for doctor:****Most important symptoms and effects, both acute and delayed**

None

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:**CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture**

None known

No further relevant information available.

**Advice for firefighters** No special advice

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Avoid formation of dust.

Wear protective clothing.

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 3)

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to Section 13.

Pick up mechanically.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

**Handling:****Precautions for safe handling** Keep receptacles tightly sealed.**Information about protection against explosions and fires:** No special measures required.**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** Do not store below -20°C. Protected from light.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep receptacle tightly sealed.**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

**Control parameters****Components with limit values that require monitoring at the workplace:** Not required.**Additional information:** The lists that were valid during the creation were used as basis.**Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

**Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**Protection of hands:** Not required.**Material of gloves**

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

**Eye protection:**

Safety glasses

Use equipment for eye protection tested and approved under government NIOSH standards.

 US  
 (Contd. on page 5)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 4)

### 9 Physical and chemical properties

#### Information on basic physical and chemical properties

##### General Information

##### Appearance:

**Form:** Crystalline powder

**Color:** Whitish

**Odor:** Strong

**Odor threshold:** Not determined.

**pH-value:** Not applicable.

##### Change in condition

**Melting point/Melting range:** 42-44 °C (107.6-111.2 °F)

**Boiling point/Boiling range:** 130 °C (266 °F)

**Flash point:** >230 °C (>446 °F)

**Flammability (solid, gaseous):** Product is not flammable.

**Decomposition temperature:** Not determined.

**Ignition temperature:** Not determined.

**Danger of explosion:** Product does not present an explosion hazard.

##### Explosion limits:

**Lower:** Not determined.

**Upper:** Not determined.

**Vapor pressure:** Not applicable.

**Density:** Not determined.

**Relative density:** Not determined.

**Vapor density:** Not applicable.

**Evaporation rate:** Not applicable.

##### Solubility in / Miscibility with

**Water:** Soluble.

**Partition coefficient (n-octanol/water):** Not determined.

##### Viscosity:

**Dynamic:** Not applicable.

**Kinematic:** Not applicable.

**VOC content:** 0.00 %

**Solids content:** 99.0 %

**Other information:** No further relevant information available.

### 10 Stability and reactivity

**Reactivity:** No further relevant information available.

##### Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

##### Possibility of hazardous reactions

Reacts with strong oxidizing agents.

Reacts with strong alkali.

Reacts with acids.

**Conditions to avoid:** No further relevant information available.

**Incompatible materials:** No further relevant information available.

##### Hazardous decomposition products:

Carbon monoxide and carbon dioxide

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

Sulfur oxides (SOx)

(Contd. of page 5)

## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

#### LD/LC50 values that are relevant for classification:

3483-12-3 DL-Dithiothreitol

Oral	LD50	400 mg/kg (Rat)
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#### Primary irritant effect:

**on the skin:** Irritant to skin and mucous membranes.

**on the eye:** Irritating effect.

#### Sensitization:

In case of skin contact: not sensitising

In case of inhalation: not sensitising

**Additional toxicological information:** The substance is not subject to classification.

#### Carcinogenic categories

#### IARC (International Agency for Research on Cancer)

Substance is not listed.

#### NTP (National Toxicology Program)

Substance is not listed.

#### OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

## 12 Ecological information

### Toxicity

**Aquatic toxicity:** Not harmful to the aquatic environment

### Persistence and degradability

Not available

No further relevant information available.

### Bioaccumulative potential

Not known

No further relevant information available.

**Mobility in soil** No further relevant information available.

### Ecotoxicological effects:

**Remark:** Not available

### Additional ecological information:

**General notes:** No data available.

### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.

US  
(Contd. on page 7)



# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 6)

### 13 Disposal considerations

#### Waste treatment methods

#### Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.  
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

#### Uncleaned packagings:

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

#### UN-Number

DOT, ADR, IMDG, IATA

UN3335

#### UN proper shipping name

DOT, IATA

Aviation regulated solid, n.o.s. (DL-Dithiothreitol)

ADR

3335 Aviation regulated solid, n.o.s.

IMDG

Aviation regulated solid, n.o.s.

#### Transport hazard class(es)

DOT, ADR, IMDG, IATA



Class

9 Miscellaneous dangerous substances and articles

Label

9

#### Packing group

DOT, ADR, IMDG

Not applicable

IATA

III

#### Environmental hazards:

Marine pollutant:

No

#### Special precautions for user

Warning: Miscellaneous dangerous substances and articles

#### Transport in bulk according to Annex II of

MARPOL 73/78 and the IBC Code

Not applicable.

#### Transport/Additional information:

#### ADR

Excepted quantities (EQ)

NOT SUBJECT TO ADR

#### IMDG

Limited quantities (LQ)

-

Excepted quantities (EQ)

Code: -

#### UN "Model Regulation":

UN 3335 AVIATION REGULATED SOLID, N.O.S. 9

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2023

Reviewed on 04/06/2023

Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 7)

## 15 Regulatory information

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

*Sara*

**Section 355 (extremely hazardous substances):**

Substance is not listed.

**Section 313 (Specific toxic chemical listings):**

Substance is not listed.

**TSCA (Toxic Substances Control Act) Inventory:**

Substance is listed.

**Hazardous Air Pollutants**

Substance is not listed.

**Proposition 65**

**Chemicals known to cause cancer:**

Substance is not listed.

**Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

**Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

**Chemicals known to cause developmental toxicity:**

Substance is not listed.

**New Jersey Right-to-Know List:**

Substance is not listed.

**Pennsylvania Right-to-Know List:**

Substance is not listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

Substance is not listed.

**TLV (Threshold Limit Value)**

Substance is not listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Signal word** Danger

**Hazard-determining components of labeling:**

DL-Dithiothreitol

**Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye damage.

**Precautionary statements**

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear eye protection / face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

(Contd. on page 9)

# Safety Data Sheet

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Printing date 04/06/2023

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Trade name: DTT (DL-Dithiothreitol)

(Contd. of page 8)

*If on skin: Wash with plenty of water.**Immediately call a poison center/doctor.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Rinse mouth.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Chemical safety assessment****Water hazard class:** *Water hazard class 1 (Assessment by list): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*\*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

chemicalregulatory@promega.com

**Contact:****Date of preparation / last revision** 04/06/2023**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1