



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

1. IDENTIFICATION:

Product Code : 92719

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

Address : W-279, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE,
NAVI MUMBAI - 400 701, MAHARASHTRA, INDIA.

E-mail : sales@adventchembio.com

WEBSITE : www.adventchembio.com

Company Phone Number : +91 77770 84837

2. HAZARDS IDENTIFICATION:**Hazard classification****Health hazards**

Acute toxicity : Category 4

Skin corrosion : Sub-category 1B

Serious eye damage : Category 1

Long-term (chronic) aquatic hazard : Category 1

Labels elements :

Hazard symbol**Signal word**

: Danger

Hazard statement

Harmful if swallowed.

: Causes severe skin burns and eye damage.

Harmful to aquatic life with long lasting effects.

Precautionary statement**Prevention**

: Obtain special instructions before use.

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

Keep container tightly closed. Ground/ bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

Use only non-sparking tools. Take precautionary measures against static discharge.

Response

: IF exposed or concerned: Get medical advice/ attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

- Storage** : Preserve in air-tight container under inert atmosphere and store at 2-8°C and away from light & moisture for long term usage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGRADIENTS:

Ingredient	CAS Number	Percent	Hazardous
DL-Dithiothreitol	3483-12-3	NLT 98.0 %	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation** : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute and delayed** : Toxic if inhaled. Irritating to eyes, respiratory system and skin.
- Indication of immediate medical attention and special treatment needed** : Symptoms may be delayed. Treat symptomatically.

5. FIRE FIGHTING MEASURES:

- General information** : No data available

Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media** : Foam, dry powder or carbon dioxide.

- Unsuitable extinguishing media** : For this substance/mixture no limitations of extinguishing agents are given.

Special protective equipment and precautions for firefighters

- Special firefighting procedures** : Fight fire from a protected location. Move containers from fire area if you can do so without risk.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities : Preserve in air-tight container under inert atmosphere and store at 2-8°C and away from light & moisture for long term usage.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters**

Appropriate engineering controls : No data available

Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

Respiratory protection	:	In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.
Hygiene measures	:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	:	White crystalline powder.
Odor	:	No data available
Solubility	:	No data available
Formula	:	$C_4H_{10}O_2S_2$
Molecular Weight	:	154.24 g/mol
Specific Gravity	:	1.377 g/cm ³ (20 °C)
pH	:	No data available
% Volatiles by volume @ 21C (70F)	:	No data available
Boiling Point	:	270 - 272 °C (1.013 hPa)
Melting Point	:	41 - 44 °C
Flash Point	:	No data available
Vapor Density (Air=1)	:	No data available
Vapor Pressure (mm Hg)	:	< 0.1 hPa (25 °C)
Evaporation Rate (BuAc=1)	:	No data available

10. STABILITY AND REACTIVITY:

Reactivity	:	The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
Chemical stability	:	Material is stable under ambient conditions.
Possibility of hazardous reactions	:	Hazardous reactions : May decompose on exposure to moist air or water.
Conditions to avoid	:	No data available.
Incompatible materials	:	Strong oxidizing agents.
Hazardous decomposition products	:	In the event of fire: see section 5



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

11. TOXICOLOGICAL INFORMATION:**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

Inhalation Product	LD50 Oral - Rat - female - 300 - 2.000 mg/kg (OECD Test Guideline 423) : Inhalation: No data available Dermal: No data available
Repeated dose toxicity Product	: No data available.
Skin corrosion/irritation Product	Skin - human skin : Result: Skin irritation - 1 h (OECD Test Guideline 439)
Serious eye damage/eye irritation Product	: Remarks: Causes serious eye damage.
Respiratory or skin sensitization Product	Local lymph node assay (LLNA) - Mouse : Result: negative (OECD Test Guideline 429)
Carcinogenicity Product	: No data available
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium : Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
In vitro Product	: No data available.
Reproductive toxicity Product	: No data available.
Specific target organ toxicity - single exposure Product	: No data available.
Specific target organ toxicity - repeated exposure Product	: No data available.
Aspiration hazard Product	: No data available.
Other effects	: None known.

MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product	LC50 (Danio rerio (zebra fish)): > 24,3 mg/l Exposure time: 96 h : Test Type: semi-static test Method: OECD Test Guideline 203 Remarks: (ECHA)
Aquatic invertebrates Product	EC50 (Daphnia magna (Water flea)): 34,8 mg/l End point: Immobilization Exposure time: 48 h : Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes

Chronic hazards to the aquatic environment

Fish Product	: No data available.
Aquatic invertebrates Product	: No data available.
Toxicity to Aquatic Plants Product:	ErC50 (Pseudokirchneriella subcapitata): 24,3 mg/l Exposure time: 72 h : Test Type: static test : Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes

Persistence and degradability

Biodegradation Product	Test Type: aerobic Inoculum: activated sludge, non-adapted Concentration: 64,3 mg/l : Result: Not readily biodegradable. : Biodegradation: 50 % Exposure time: 43 d Method: OECD Test Guideline 301B GLP: yes Remarks: The 10 day time window criterion is not fulfilled.
-------------------------------	--

BOD/COD ratio Product	: No data available.
------------------------------	----------------------

Bioaccumulative potential

Bioconcentration factor (BCF) Product	: No data available.
Partition coefficient n-octanol / water (log Kow) Product	: No data available.
Mobility in soil	: No data available



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

Other adverse effects : Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	NA	DL-Dithiothreitol	NA	Not dangerous goods	NA
IMDG	NA	DL-Dithiothreitol	NA	Not dangerous goods	NA
IATA	UN 3335	DL-Dithiothreitol	9	III	NA

15. REGULATORY INFORMATION:

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

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

No Data Available.

MATERIAL SAFETY DATA SHEET

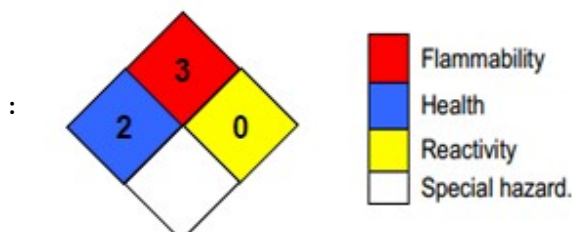
Version :02

PRODUCT NAME: DL-DITHIOTHREITOL

CAS Number: 3483-12-3

16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date : 04/06/2026

Version : 02

Disclaimer: This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. ADVENT CHEMBIO PRIVATE LIMITED makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the technical instructor in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of ADVENT CHEMBIO PRIVATE LIMITED 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 THIS PRODUCT(S).