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Issuing Date: 10-Feb-1998

Revision Date: 6-July-2018

Rev. 5

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

Product Name: DTT
Product Code: IB21040 & IB21045
Recommend Use: For further manufacturing use only
Uses Advised Against: Not for human or animal drug use
Company: IBI SCIENTIFIC
7445 Chavenelle Road
Dubuque, IA 52002
Emergency Tele. Number: 3E Company (Acct# 9027) 1-800-451-8346 / (001) 760-602-8703
Company Tele. Number: 1-800-253-4942 / (001) 563-690-0484
E-Mail Address: info@ibisci.com

2. HAZARDOUS IDENTIFICATION

GHS – Classification

OSHA Regulatory Status: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Acute Toxicity - Oral:	Category 4
Skin Corrosion/Irritation:	Category 2
Serious Eye Damage/Eye Irritation:	Category 2
Specific Target Organ Toxicity (Single Exposure):	Category 3

Signal Word: Warning



Appearance: White
Physical State: Powder
Odor: Thiol odor – Unpleasant Characteristic, Skunk-like
Hazard Statements: H302-Harmful if swallowed
H315-Causes skin irritation
H319-Causes serious eye irritation

Precautionary Statements:

P261-Avoid breathing dust/fume/gas/mist/vapors/spray
P264-Wash face, hands, and any exposed skin thoroughly after handling
P270-Do not eat, drink, or smoke when using this product
P271-Use only outdoors or in a well-ventilated area
P280-Wear protective gloves/protective clothing/eye protection/face protection
P301+P312-IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301+P330+P331-IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352-IF ON SKIN: Wash with plenty of soap and water
P304+P340-IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312-Call a POISON CENTER or doctor if you feel unwell
P321-Specific treatment (see supplemental first aid instructions on this label)
P330-Rinse mouth
P332+P313-If skin irritation occurs: Get medical advice/attention
P337+P313-If eye irritation persists: Get medical advice/attention
P362-Take off contaminated clothing and wash before reuse
P403+P233-Store in a well-ventilated place. Keep container tightly closed
P405-Store locked up
P501-Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified: Not applicable

Other Information:

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: DL-Dithiothreitol
EC No.: EEC No. 222-468-7
REACH Reg. No.: Not Available
CAS No.: 3483-12-3
Weight %: 95 – 100
Classification: -

4. FIRST AID MEASURES

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact: Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes.
Inhalation: Move to fresh air. If not breathing, give artificial respiration.
Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth.
Notes to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammable Properties: Not flammable
Flash Point: Not determined
Suitable Extinguishing Media: Dry chemical, CO₂, appropriate foam
Hazardous Combustion Products: Carbon oxides, Sulfur oxides, Hydrogen sulfide gas
Explosion Data
Sensitivity to Mechanical Impact: Not sensitive
Sensitivity to Static Discharge: Not sensitive

Protective Equip. & Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equiv.) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation, especially in confined areas.
Environmental Precautions: See Section 12 for additional ecological information.
Methods for Containment: Prevent further leakage or spillage, if safe to do so.
Methods for Cleaning Up: Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Hygroscopic.
Storage: Keep container tightly closed in a dry, cool, and well-ventilated place. Hygroscopic.
Incompatible Products: Bases, Oxidizing agents, Reducing agents, Alkali metals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name: DL-Dithiothreitol - #3483-12-3

ACGIH TLV: -

OSHA PEL: -

NIOSH IDLH: -

Engineering Measures: Showers, Eyewash Stations, Ventilation Systems

Personal Protective Equipment

Eye/Face Protection: Avoid contact with eyes. Safety glasses with side-shields.

Skin & Body Protection: Wear protective gloves/clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White
Odor: Thiol odor – Unpleasant Characteristic, Skunk-like
Odor Threshold: No information available
Decomposition Temp. °C: No information available
Freezing Point: No information available
Initial Boiling Point: No information available
Physical State: Powder
pH: 4.3
Flash Point: 109°C / 228°F
Autoignition Temp. °C: No data available
Boiling Point/Range: No data available
Melting Point/Range: 42 – 43°C
Flammability Limits (Air): Upper-No data available * Lower-No data available
Explosion Limits No information available
Explosive Properties: No information available

Oxidizing Properties:	No information available
Evaporation Rate:	No information available
MMHG @ 37.8°C:	No data available
Vapor Density:	No data available
Specific Gravity:	1.0
Water Solubility:	No data available
Solubility in other solvents:	No data available
Partition Coefficient (n-octanol/water):	No data available
Viscosity:	No information available

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under recommended storage conditions
Possibility of Hazardous Reactions:	None under normal processing
Incompatible Products:	Bases, Oxidizing agents, Reducing agents, Alkali metals
Conditions to Avoid:	Protect from moisture.
Hazardous Decomposition Products:	Carbon oxides, Sulfur oxides, Hydrogen sulfide gas
Hazardous Polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information:

Inhalation:	May cause irritation of respiratory tract
Eye Contact:	Irritating to eyes
Skin Contact:	Irritating to skin
Ingestion:	There is no data available for this product

Chemical Name:	DL-Dithiothreitol - #3483-12-3
LD50 Oral:	-
LD50 Dermal:	-
LC50 Inhalation:	-

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long term exposure

Sensitization:	No information available
Mutagenic Effects:	No information available
Carcinogenicity:	No information available
Chemical Name:	DL-Dithiothreitol - #3483-12-3
ACGIH:	-
IARC:	-
NTP:	-
OSHA:	-

Reproductive Toxicity:	No information available
STOT – single exposure:	No information available
STOT – repeated exposure:	No information available
Chronic Toxicity:	No information available
Target Organ Effects:	Central nervous system (CNS)
Aspiration Effects:	No information available

Numerical measures of toxicity – Product Information

The following values are calculated based on chapter 3.1 of the GHS document

12. ECOLOGICAL INFORMATION

Ecotoxicity:	100% of mixture consists of component(s) of unknown hazards to aquatic environment
Chemical Name:	DL-Dithiothreitol - #3483-12-3
Toxicity to Algae:	-
Toxicity to Fish:	-
Daphnia Magna (Water Flea):	-
Persistence and Degradability:	No information available
Bioaccumulation/Accumulation:	No information available
Chemical Name:	DL-Dithiothreitol - #3483-12-3
Low Pow:	-
Other Adverse Effects:	No information available

13. DISPOSAL CONSIDERATIONS

Water Disposal Method:	Dispose of material in accordance with all federal, state, and local regulations.
Contaminated Packaging:	Do not re-use empty containers.
Chemical Name:	DL-Dithiothreitol - #3483-12-3
RCRA – Halogenated Organic Compounds:	-
RCRA – P Series Wastes:	-
RCRA – F Series Wastes:	-
RCRA – K Series Wastes:	-
Chemical Name:	DL-Dithiothreitol - #3483-12-3
California Hazardous Waste Status:	-

14. TRANSPORT INFORMATION

<u>IATA</u>
Not regulated
<u>US DOT</u>
Not regulated

15. TOXICOLOGICAL INFORMATION

International Inventories

TSCA:	Complies
DSL/NDSL:	Complies
EINECS/ELINCS:	Complies
ENCS:	Does not comply
IECSC:	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA:	United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL:	Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS:	European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS:	Japan Existing and New Chemical Substances
IECSC:	China Inventory of Existing Chemical Substances
KECL	Korean Existing and Evaluated Chemical Substances
PICCS	Philippines Inventory of Chemicals and Chemical Substances
AICS	Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain a chemical or chemicals which are subject to the reporting requirements of the Act & Title 40 of the Code of Federal Regulations, part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name:	DL-Dithiothreitol - #3483-12-3
CWA – Reportable Quantities:	-
CWA – Toxic Pollutants:	-
CWA – Priority Pollutants:	-
CWA – Hazardous Substances:	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name:	DL-Dithiothreitol - #3483-12-3
Hazardous Substances RQs:	-
Extremely Hazardous Substances RQs:	-
RQ:	-

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

Chemical Name:	DL-Dithiothreitol - #3483-12-3
California Prop. 65:	-

U.S. Right-to-Know Regulations

Chemical Name:	DL-Dithiothreitol - #3483-12-3
New Jersey:	-
Massachusetts:	-
Pennsylvania:	-

U.S. EPA Label Information

EPA Pesticide Registration #: Not applicable.

Canada

No information available

WHMIS Hazard Class

D2B – Toxic materials



16. OTHER INFORMATION

Issuing Date:	10-Feb-1998
Revision Date:	6-July-2018
Revision Note:	Updated address and logo
Recommended Restrictions:	No information available
Disclaimer:	<p>The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release; and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the test.</p>

End of Safety Data Sheet