

SAFETY DATA SHEET

Version: 1.2

Date written: 05 October 2011

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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name **dimethyl sulfoxide**

Product Catalogue Name **LT-DMSO-01**

CAS-No. **67-68-5**

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SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS-CLP]

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008 [EU-GHS-CLP].

2.2 Label elements

The product does not require to be labelled in accordance with EC directives or respective national laws.

Signal Word: None

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

Hazard Statement(s)

None

Precautionary Statement(s)

None

2.3 Other hazard information:

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. Rapidly absorbed through skin.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3. 1 Substances

Synonyms: DMSO
methyl sulfoxide
dimethyl sulfoxide

Formula: C_2H_6OS

Molecular Weight: 78.13g/mol

Component	Concentration
Name Dimethyl Sulfoxide	< = 100%

CAS-No.	67-68-5	
EC-No.	200-664-3	

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice

Consult a physician if exposure causes ill effects and if in any doubt. Show this safety data sheet to the physician/ first responder in attendance.

If Ingested

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell

If skin is exposed

Wash off with plenty of soap and water.

If eyes are exposed

Flush eyes with plenty of water/ eye wash solution as a precaution.

If inhaled

Move affected person to fresh air. If not breathing give artificial respiration.

4.2 Most important symptoms and effects, both acute and delayed

Effects due to ingestion may include: Nausea, Fatigue and Headache.

4.3 Indication of immediate medical attention and special treatment needed

No data available.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Small fires: Use extinguishing media such as "alcohol" foam, dry chemical or carbon dioxide.

Large fires: Use extinguishing media such as water, from a far away distance as possible. Use very large quantities of water as mist or spray to flood the fire and the combustible material. Cool all affected containers with large quantities of water.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

5.3 Advice for fire fighters

Wear self contained breathing apparatus for fire fighting if necessary, to spray cool water on any unopened containers near the fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, gas or mist. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so, e.g. with spill mats. Do not let the product enter drains.

6.3 Methods and material for containment and cleaning up

Contain the spillage and put the collected material into a suitable container with a secure lid. Wash the area well, do not let run off into the drains, collect as waste.

6.4 Reference to other sections

See section 13 for disposal of waste material(s).

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist. Keep away from sources of ignition- No smoking.
Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container closed in a dry well ventilated place.

7.3 Specific end uses

No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters.
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good laboratory hygiene and safety practice. Wash hands before breaks and at the end of the day.

Personal Protective Equipment

Eye / face protection

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, which should be inspected before use. Use proper glove removal technique (removal without the outside of the glove touching the skin) to avoid contact with the skin/chemical. Dispose of contaminated gloves as Laboratory waste in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Gloves should be of the standard that will stratify the specifications of EU directive 89/696/EEC and the standard EN 374 derived from it.

Body Protection

The type of protective clothing must be selected according to the amount of substance at the specific workplace being used. Impervious coats or laboratory coats.

Respiratory protection

Use substance in an operation fume hood/ outside venting extraction cupboard. Wear full face respirator if appropriate to use, must be tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: Liquid, clear
Odour	Colour: Colourless
Odour threshold	No data available
pH	No data available
Freezing/Melting Point	No data available
Initial boiling point and boiling range	Melting point/range: 16-19°C
Flash Point	189°C
Evaporation rate	87°C – Closed cup
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
	Upper explosion limit: 42% (V)
	Lower explosion limit: 3.5% (V)
Vapour Pressure, Pa at temperature degree C	0.55hPa at 20°C
Relative Density	1.1g/mL
Solubility in water and solvents	Completely miscible
Partition coefficient: n-octanol/water	log Pow: - 2.03
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information

No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to Avoid

Heat, flames and sparks

10.5 Incompatible materials

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents and strong reducing agents.

10.6 Hazardous decomposition products

Other decomposition products – No data available

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 28,300 mg/kg (OECD Test Guideline 401)

LC0 Inhalation - Rat - male and female - 4 h - > 5.33 mg/l (OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - 40,000 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: slight irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/irritation

Eyes - Rabbit Result: slight irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)

Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Ames test Salmonella typhimurium Result: negative sister chromatid exchange assay

Chinese hamster ovary cells Result: negative Mutagenicity (mammal cell test): chromosome aberration.

Chinese hamster ovary cells Result: negative OECD Test Guideline 474 Rat - male and female Result: negative

Carcinogenicity

Carcinogenicity – Rat – Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Others: Tumors.

Carcinogenicity – Mouse – Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lukaemia skin and appendages: Other: Tumors.

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity – Rat – Intraperitoneal

Effects on fertility: Abortion

Reproductive toxicity – Rat – Intraperitoneal

Effects on fertility: Post – implantation mortality (e.g. dead and/or resorbed implants per total number of implants).

Reproductive toxicity – Rat – Subcutaneous

Effects on fertility: Post – implantation mortality (e.g. dead and/or resorbed implants per total number of implants). Effects on fertility: Litter size (e.g. # fetuses per litter; measured before birth).

Reproductive toxicity – Mouse – Oral

Effects on fertility: Pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or fetus: Fetotoxicity (except death, e.g. stunted fetus).

Specific developmental abnormalities: Musculoskeletal system.

Reproductive toxicity – Mouse – Intraperitoneal

Effects on embryo or fetus: Fetotoxicity (except death, e.g. stunted fetus). Specific developmental abnormalities: Musculoskeletal system.

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration hazard.

No data available

Potential Health Hazards**Inhalation**

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

May be harmful if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Aggravated Medical Condition

Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through the skin and may carry such materials into the body.

Signs and symptoms of exposure

Effects due to ingestion may include; Nausea, Fatigue, Headache.

Additional Information

RTECS: PV6210000

SECTION 12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to Fish

LC50-Pimephales promelas (fathead minnow) – 34,000mg/l - 96h

LC50-Oncorhynchus mykiss (rainbow trout) – 34,000mg/l-96h

Toxicity to daphnia and other

Aquatic invertebrates

EC50-Daphnia pulex (water fleas) – 27,500mg/l

Toxicity to algae

EC50-Lepomis macrochirus (bluegill) - >400,000mg/l-96h

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

No data available

12.6. Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber or to be disposed of by a licensed professional waste disposal company.

Contaminated packaging

Dispose of as the unused product.

SECTION 14. TRANSPORT INFORMATION

14.1 UN Number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN Proper Shipping Name

ADR/RID: Not Dangerous Goods

IMDG: Not Dangerous Goods

IATA: Not Dangerous Goods

14.3 Transport hazard class (es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packing group

ADR/RID: -

IMDG: -

IATA: -

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 data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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

No data available

15.2 Chemical Safety Assessment

No data available

Please note that the label elements that used to go in Section 15 are now in Section 2.

SECTION 16. OTHER INFORMATION

The advice offered is derived from the current available information on the hazardous materials in this product and its component(s). Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore, not all inclusive nor should it be taken as the descriptive of the compound generally.