

Material Safety Data Sheet

Version: 2, Date: 30.05.2014

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

Commercial Product Name:

Dimethyl sulfoxide; DMSO

Company:

metabion international AG
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Centre for detoxification:

2. CHEMICAL CHARACTERISATION / INFORMATION ON CONSTITUENTS

Formula: C_6H_6OS

MW: 78.13 g/mol

Purity: > ACS grade

Description: colourless liquid

Melting point: 18.4 °C

3. HAZARDS IDENTIFICATION

Hazardous description: This substance is not classified as dangerous according to Directive 67/548/EEC.

4. FIRST AID MEASURES

Avoid all direct contact.

Always contact physician.

Inhalation: If breathed in, move person into fresh air. If not breathing give artificial respiration.

After contact with skin: Wash off with soap and plenty of water. Consult a physician.

After contact with eyes: Flush thoroughly with water.

After ingestion: Never induce vomiting or give liquids to someone who is unconscious or cannot swallow.

Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Means of extinguishing: Use material suitable and appropriate to surrounding fire conditions.

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Avoid all direct contact.

Personal precautions: Avoid breathing vapors, mist or gas.

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Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling:

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage:

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. hygroscopic

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment

Respiratory protection: Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: For prolonged or repeated contact use protective gloves.

Eye protection: Safety glasses

Hygiene measures: General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form and color: Liquid, colourless

Melting point / range: 18.4 °C

Boiling point / range: 189 °C at 1.013 hPa

Flash point: 87 °C – closed cup

Ignition temperature: 301 °C

Lower explosion limit: 3.5 % (V)

Upper explosion limit: 42 % (V)

Vapour pressure: 0.55 hPa at 20 °C

Density: 1.1 g/cm³

Relative vapour density: 2.70 – (Air = 1.0).

Solubility in water: completely miscible

10. STABILITY AND REACTIVITY

Storage stability: stable under recommended storage conditions.

Dangerous reactions: Avoid strong oxidizing agents, strong reducing agents, Phosphorus halides, Acid chlorides.

Dangerous decomposition: Hazardous decomposition products formed under fire conditions. – Carbon oxides, Sulphur oxides.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 14.500 mg/kg

LC50 Inhalation - rat - 4 h - 40250 ppm

LD50 Dermal - rabbit - > 5.000 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation - 24 h

Eyes - rabbit - Mild eye irritation

Sensitisation

no data available

Chronic exposure

Carcinogenicity - rat - Oral

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

Carcinogenicity - mouse - Oral

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

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.

Genotoxicity in vitro - mouse - lymphocyte

Cytogenetic analysis

Genotoxicity in vitro - mouse - lymphocyte

Mutation in mammalian somatic cells.

Genotoxicity in vivo - rat - Intraperitoneal

Cytogenetic analysis

Genotoxicity in vivo - mouse - Intraperitoneal

DNA damage

Developmental Toxicity - mouse - Intraperitoneal

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific Developmental Abnormalities: Musculoskeletal system.

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

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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.

Potential Health Effects

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

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

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Target Organs: Eyes, Skin,

Additional Information

RTECS: PV6210000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 34.000 mg/l - 96 h, LC50 - Oncorhynchus mykiss (rainbow trout) - 35.000 mg/l- 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia pulex (Water flea) - 27.500 mg/l

Toxicity to algae: EC50 - Lepomis macrochirus (Bluegill) - > 400.000 mg/l -96 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product:

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Contaminated packaging:

Dispose of as unused product

14. TRANSPORT INFORMATION

Land transport ADR/RID (cross-border)

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No dangerous goods.

Maritime transport IMDG

No dangerous goods.

Air transport ICAO-TI and IATA-DGR

No dangerous goods.

15. REGULATORY INFORMATION

Labelling according to EC Directives

EC Label

Further information: The product does not need to be labeled in accordance with EC directives or respective national laws.

16. OTHER INFORMATION

The information provided herein is based on sources believed to be reliable as of May 01, 2009 and pertains only to the material designated. Metabion international AG makes no warranty or representation to its completeness, accuracy, or currency. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to local laws or regulations. Not for drug use!