

# Material Safety Data Sheet

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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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82152 Planegg - Martinsried  
Telephone: +49-89-899363 0  
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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/cm<sup>3</sup>

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**

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