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Material Safety Data Sheets (MSDS)

Dimethyl Sulphoxide

Identification of Product

Chemical Code: CHE-D8

Chemical Name: Dimethyl Sulphoxide

Chemical Grade: AR

Chemical Formula: $(CH_3)_2SO$

Chemical Weight: 78,13 g/mol

CAS No: 67-68-5

Chemical Synonyms: DMSO,
Methyl Sulphoxide.

Hazards Identification

REACH No: 01-2119431362-50-XXXX

Signal Word:

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

Additional Hazard Information: This substance contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.
Rapidly absorbed through skin.

Hazards statements

Precautionary statements

Composition of Chemical

Chemical Formula: $(CH_3)_2SO$

EC No 1272/2008: 01-2119431362-50-XXXX

First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If: Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If: Skin Contact: Wash off with soap and plenty of water. Consult a physician.

If: Eye Contac: Flush eyes with water as a precaution.

If: Swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Important Symptoms: The most important known symptoms and effects are described in the labeling section.

Immediate Medical Attention: No Data Available

Firefighting Measures

Extinguishing Media: Use Water spray, Alcohol-resistant foam, Dry chemical or Carbon Dioxide.
Unsuitable extinguishing media - Do NOT use water jet.

Hazards Arising: Carbon Oxides, Sulphur Oxides.

Advice for Firefighters: Wear self contained breathing apparatus for fire fighting if necessary.

Info for Firefighting: Use water spray to cool unopened containers.

Accidental Release Measures

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

Enviromental Precautions: Prevent further leakage or spillage if safe to do so.
Do not let product enter drains.

Method for Containment: Contain spillage, and then collect with non-combustible absorbent material, (e.g. Sand, Earth, Diatomaceous earth, Vermiculite) and place in container for disposal according to local / national regulations.
Keep in suitable, closed containers for disposal.

Handling and Storage

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

Enviromental Precautions: Store in cool place.
Keep container tightly closed in a dry and well-ventilated place.
Store under inert gas.
Hygroscopic.

Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

Workers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Consumers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Predicted No Effect Concentration (PNEC)

No Data Available

Engineering Controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/Face Protection: Safety glasses with side-shields conforming to EN166. 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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Splash contact -
Material: Nitrile rubber. Minimum layer thickness: 0,2 mm.
Break through time: 38 min. Material tested: Dermatril® P.
Data source: KCL GmbH, D-36124. Test method: EN374.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator with multi-purpose combination, type OV/AG (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Physical and Chemical Properties

Appearance: Colourless, hygroscopic liquid. Slightly bitter taste

Odour: Sulphurous

Odour Threshold: No Data Available

pH: No Data Available

Melting Point: Melting Point/Range: 16 - 19 °C

Boiling Point: 189 °C

Flash Point: 87 °C - Closed Cup

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: Upper explosion limit: 42 %(V),
Lower explosion limit: 3,5 %(V).

Vapour pressure: 0,55 hPa at 20 °C,
4 hPa at 50 °C.

Vapour density: 2,70 - (Air = 1.0)

Relative density: 1,1 g/mL

Water solubility: Completely Miscible

Partition Coefficien: log Pow: -1,35

Auto-ignition Temperature: 300 - 302 °C

Decomposition Temperature: > 190 °C

Viscosity: No Data Available

Explosive properties: Not explosive

Oxidizing properties: The substance is not classified as oxidizing.

Other Safety Info: Solubility in other solvents:
Alcohol - soluble, Diethylether - soluble.

Surface tension: 43,5 mN/m at 20 °C.

Relative vapour density: 2,70 - (Air = 1.0)

Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No Data Available

Conditions to Avoid: Heat, flames and sparks.

Incompatible Materials: Acid Chlorides, Phosphorus Halides, Strong acids, Strong oxidizing agents, Strong reducing agents.

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions - Carbon Oxides, Sulphur Oxides.

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.

Skin Corrosion/Irritation: Mild skin irritation.

Serious Eye damage | Eye Irritation: No Data Available

Cell Mutagenicity: Mouse - Lymphocyte - Cytogenetic analysis.

Mouse - Lymphocyte - Mutation in mammalian somatic cells.

Rat - Cytogenetic analysis.

Mouse - DNA damage.

Carcinogenicity: 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.

Reproductive toxicity: No Data Available

Specific Target Organ Toxicity - Single Exposure: No Data Available

Specific Target Organ Toxicity - Repeated Exposure: No Data Available

Aspiration Hazard: No Data Available

Ecological Information

Ecological Toxicity: 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 magna (Water flea) - 24.600 mg/l - 48 h - (OECD Test Guideline 202).

Toxicity to algae:
EC50 - Pseudokirchneriella subcapitata (green algae) - 17.000 mg/l - 72 h - (OECD Test Guideline 201).

Ecological Persistence and degradability: Biodegradability:
Result: 31 % -
According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D).

Bioaccumulative Potential: No Data Available

Mobility in Soil: No Data Available

Results of PBT and vPvB Assessment: This substance contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.

Other Adverse Effect: Stability in water:
0,12 - 1,2 h at 30 °C,
Remarks: Hydrolyses readily.

Disposal Considerations

Waste Treatment Methods: Product -
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging - Dispose of as unused product.

Transport Information

UN Number: ADR/RID: -
IMDG: -
IATA: -

UN Shipping Hazard: ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

Transport Hazard Class: ADR/RID: -
IMDG: -
IATA: -

Packaging Group: ADR/RID: -
IMDG: -
IATA: -

Enviromental Hazards: ADR/RID: no
IMDG Marine pollutant: no
IATA: no

Special Precautions: No Data Available

Regulatory Information

Safety, Health and environmental regulations: This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment: For this product a chemical safety assessment was not carried out.

Additional Info: RTECS: PV6210000.

Exposure to large amounts can cause: Redness of skin, Itching, Burning, Sedation, Headache, Nausea, Dizziness.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Disclaimer

The information stated above is considered to be correct, but does not claim to be inclusive and shall only be used as a guideline. The information provided by this document is confirmed by our continuous updating of knowledge and adheres to the products appropriate safety precautions. It does not represent any guarantee of the product's properties. RLS Chemicals and its Associates shall not be held accountable for any damage's consequent of handling the above product.