

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name DIMETHYLSULPHOXIDE
CAS-No. 67-68-5
Product code AH1055, AR1054, GC1334, GP1054, HS1334, HS1515, IR1334, LC1334, RP1054

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Chemical for analysis and production.

1.3 Details of the manufacturer of the safety data sheet

Manufacturer RCI LABSCAN LIMITED.
24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number (662) 613-7911-4
Fax number (662) 613-7915

1.4 Emergency Telephone Number

Emergency phone (662) 613-7911-4

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This substance is not hazardous according to Regulation (EC) No. 1272/2008 and Directive 67/548/EEC.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

This substance is not need to be labelled in according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms Dimethylsulfoxide, sulfinylbis- Methane, Methylsulfinylmethane, DMSO

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
67-68-5	200-664-3	-	(CH ₃) ₂ SO	78.13 g/mol	=<100

Hazardous ingredients according to Regulation (EC) No 1272/2008

This substance is not hazardous ingredients according to Regulation (EC) No 1272/2008.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated

	clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

After swallowing, make a victim drink plenty of water. Subsequently administer; Laxative, Sodium Sulfate 1 tablespoon/250 ml of water.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Extinguish with carbon dioxide, dry chemical or foam. In the event of fire, cool tanks with water spray.

5.2 Special hazards arising from the substance or mixture

Vapors may form explosive mixture with air at ambient temperature. Flash back possible over considerable distance.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

5.4 Further information

Standard procedure for chemical fires. Prevent firefighting water from entering surface water or groundwater.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel or chemical absorbent pads). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

Storage class 10(TRGS 510); Combustible liquids.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from polychloroprene material.
- Splash contact wears gloves from natural rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter A (EN 141 or EN 14387).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Color	Colorless
Odour	Characteristic
Odour Threshold	Not Available
pH	Not Available
Melting point/range	18.5 °C
Boiling point/range	189 °C at 1013 hPa

Flash point	95 °C (closed cup)
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	1.8 % (V)
upper	63.0 % (V)
Vapor Pressure	0.6 hPa at 20°C
Relative Vapor Density	2.7
Density	1.100 g/ml at 20°C
Water solubility	Soluble at 20°C
Partition coefficient (n-octanol/water)	log Pow: -1.35
Auto-Ignition temperature	300-302 °C
Decomposition Temperature	Not Available
Viscosity	2.14 mPa.s at 20°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity

Hygroscopic.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion in contact with nitric acid, acetanilide, benzene sulfonyl chloride, diborane, diisothiocyanate, disulphurdichloride, iodine pentafluoride, metal chlorates, metal perchlorates, metal nitrates, sodium hydride, sodium isopropoxide, oxalic acid chloride, perchloric acid and its salts, phosphorus oxides and chlorides, sulphur chlorides, silver fluorides, tetrachloro silane, thionyl chloride, trifluoro acetic anhydride.

The substance can react dangerously with strong oxidizing agents, alkali metals, strong reducing agents, strong acids, boron compounds, aliphatic chlorides, humidity, oxyhalogenic compounds, potassium tert.-butoxide, potassium permanganate, perchlorates, phosphorus halogen compounds, acid chlorides, sulphur trioxide, silver chloride, nitrogen dioxide.

The substance forms an explosive mixture with air on heating.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Alkali metals, iron(III) compound, hydrides, nitrates, halogen-halogen compounds, perchloric acid and salt, perchlorates, chlorates, nonmetallic oxyhalides, oxyhalogenic compounds, acid halides, sulfur trioxide, sulfur oxide, phosphorus oxide, nitric acid, silver salt, silicon compound, nitrogen oxides, potassium permanganate, ketones, halogenated hydrocarbons, strong oxidizing agents.

Unsuitable working materials: Various plastic, metals in the presence of atmospheric oxygen and/or moisture.

10.6 Hazardous decomposition products

Sulfur oxides, Carbon monoxides, Carbon dioxides (Hazardous decomposition products from under fire condition).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD₅₀ (oral, rat): 14500 mg/kg

LD₅₀ (dermal, rat): 40000 mg/kg

Skin corrosion/irritation

Slight irritations.

Serious eye damage/eye irritation

Slight irritations.

Respiratory or skin sensitization

Sensitization test (guinea pig) is negative.

Germ cell mutagenicity

Bacterial mutagenicity; Ames test is negative.

No indication of mutagenic activity.

Carcinogenicity

No indication of carcinogenic activity.

Reproductive toxicity

Not Available.

Specific target organ toxicity (STOT) - single exposure

Not Available.

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information

Possible symptoms after uptake; CNS disorders, nausea, tiredness, headache.

Damage of liver and kidneys.

The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC₅₀ O. mykiss: 38500 mg/l/96h.

Toxicity to bacteria

EC₁₀ Activated sludge: 10-100 mg/l/30 min.

EC₁₀ Ps. Putida: 7100 mg/l/16h.

12.2 Persistence and degradability

Biodegradability

3.1% /14d. Biologically not readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)

log Pow: -1.35 (experimental).

No bioaccumulation is to be expected (log P o/w <1)

12.4 Mobility in soil

Not Available

12.5 Results of PBT and vPvB assessment

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.

12.6 Other adverse effects

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information

Not subject to transport regulations.

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Recommended restrictions

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.
Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.
Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process unless specified in the text.