

MATERIAL SAFETY DATA SHEET

www.britisscientific.com

Issue Date:

1- Chemical Product Information and Company Identification.

Product Name: Dimethyl Sulphoxide, AnStan[®] GC Reference standard (DMSO).
Synonym: Methylsulfinylmethane.
Product code: BS10103.
CAS Number: 67-68-5.
Company Name: Briti Scientific.
Company Address: Plot No: 78/B/13, SY-79, Phase-VI, Jeedimetla, Hyderabad- 500 055. Telangana, India.

Section 2- Composition / Information on Ingredients.

CAS No.	Chemical Name	Mol. Formula
67-68-5.	DMSO.	C ₂ H ₆ OS.

Section 3- Hazards Identification.

Classification of the substance or mixture

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

Label elements

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

Other hazards

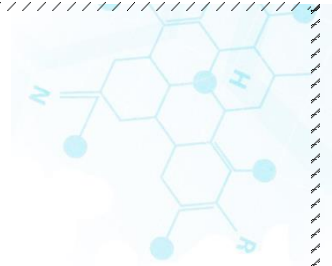
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Rapidly absorbed through skin.

Section 4- First Aid Measures.

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin: Wash off with soap and plenty of water. Consult a physician.
Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.



Plot No: 78/B/13, SY-79, Phase-VI, Jeedimetla, Hyderabad - 500 055.
Telangana, India.



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

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

Section 5- Fire Fighting Measures.

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Sulfur oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

Section 6- Accidental Release Measures.

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

Environmental precautions

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

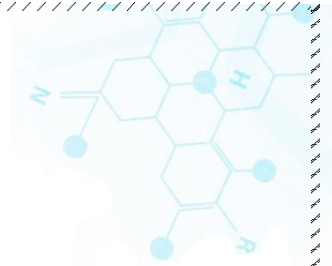
Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.





Section 7- Handling and Storage.

Handling: Advice on safe handling Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Advice on protection against fire and explosion Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. For precautions see section 2.2.

Storage: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C. Storage class (TRGS 510): 10: Combustible liquids.

Section 8- Exposure Control/Personal Protection.

Engineering Controls

Appropriate engineering controls

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

Personal protective equipment

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 glove's 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.

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.

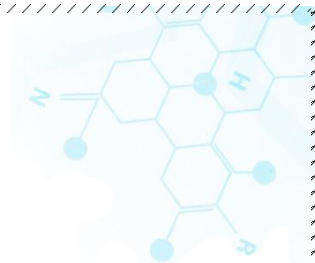
Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (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).

Control of environmental exposure

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





Section 9- Physical and Chemical Properties.

Information on basic physical and chemical properties

Appearance: Form: liquid, clear

Colour: colourless

Melting point/freezing point: 18.4 °C

Initial boiling point and boiling range: 189 °C at 1.013 hPa

Flash point: 87 °C - closed cup

Upper/lower: Upper explosion limit: 42 %(V)

flammability or explosive limits: Lower explosion limit: 3.5 %(V)

Vapour pressure: 0.55 hPa at 20 °C

Vapour density: 2.70 - (Air = 1.0)

Relative density: No data available

Water solubility: completely miscible

Partition coefficient: n-octanol/water: log Pow: -2.03

Other safety information

Relative vapour density 2.70 - (Air = 1.0)

Section 10- 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

In the event of fire: see section 5

Section 11- Toxicological Information.

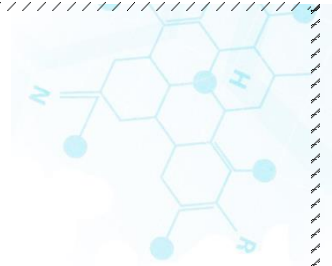
Information on toxicological effects.

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/eye 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

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative Test

Type: sister chromatid exchange assay

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

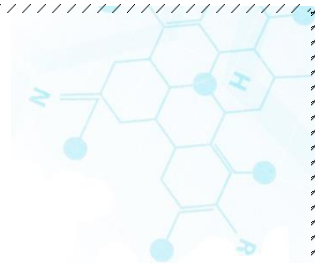
Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available





Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 18 Months - NOAEL (No observed adverse effect level) - 3.300 mg/kg - LOAEL (Lowest observed adverse effect level) - 9.900 mg/kg

Repeated dose toxicity - Monkey - male and female - Dermal - 18 Months - NOAEL (No observed adverse effect level) - \geq 8.910 mg/kg - LOAEL (Lowest observed adverse effect level) - 990 mg/kg

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.

Section 12- Ecological Information.

Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - > 25.000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 24.600 mg/l - 48 (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) – 17.000 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - 10 - 100 mg/l - 30 min (ISO 8192)

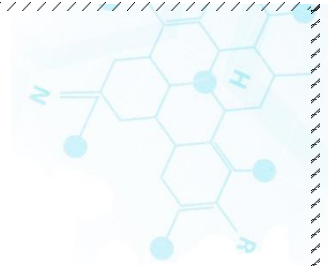
Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 31 % - Not readily biodegradable.
(OECD Test Guideline 301D)

Bioaccumulative potential

No data available





Section 15- Regulatory Information.

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

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

International Chemical Weapons Convention :
(CWC) Schedules of Toxic Chemicals and Precursors

REACH - Restrictions on the manufacture, :
placing on the market and use of certain
dangerous substances, preparations and articles
(Annex XVII)

Regulation (EC) No 649/2012 of the European :
Parliament and the Council concerning the
export and import of dangerous chemicals

REACH - Candidate List of Substances of Very High :
Concern for Authorisation (Article 59).

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

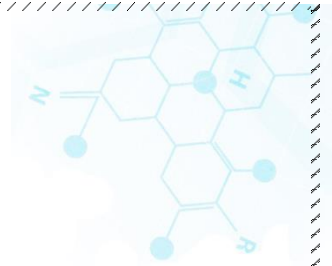
Listed substance / Sunset Date :

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

Regulation (EC) No 1005/2009 on substances :
that deplete the ozone layer

Regulation (EC) No 850/2004 on persistent :
organic pollutants





Section 16- Other Information.

Briti Scientific provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

