



MATERIAL SAFETY DATA SHEET

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1- Chemical Product Information and Company Identification.

Product Name: : Methyl Methanesulphonate (MMS) GC reference standard, AnStan[®].
Synonym: : Methanesulfonic Acid Methyl Ester.
Product code: : BS14261.
CAS Number: : 66-27-3.
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
66-27-3.	Methanesulfonic Acid Methyl Ester.	C ₂ H ₆ O ₃ S.

Section 3- Hazards Identification.

Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute oral toxicity: Category 3
Skin Corrosion/Irritation: Category 2
Serious Eye Damage/Eye Irritation: Category 2
Skin Sensitization: Category 1
Germ Cell Mutagenicity: Category 1B
Carcinogenicity: Category 1B
Reproductive Toxicity: Category 2
Specific target organ toxicity - (repeated exposure): Category 2

Label Elements

Signal Word

Danger

Hazard Statements

Toxic if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.





May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.



Precautionary Statements

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use personal protective equipment as required.

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF exposed or concerned: Get medical attention/advice.

Skin

IF ON SKIN: Wash with plenty of soap and water.

Take off contaminated clothing and wash before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Rinse mouth.

Storage

Store locked up.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects.





Section 4- First Aid Measures.

General Advice: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion: Do NOT induce vomiting. Get medical attention.

Most important symptoms and effects: None reasonably foreseeable. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, light headedness, chest pain, muscle pain or flushing.

Notes to Physician: Treat symptomatically.

Section 5- Fire Fighting Measures.

Suitable Extinguishing Media: Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media: No information available.

Flash Point: 104 °C / 219.2 °F.

Method - No information available.

Autoignition Temperature: No information available.

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact: No information available.

Sensitivity to Static Discharge: No information available.

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products: Carbon monoxide (CO), Carbon dioxide (CO₂), Sulfur oxides.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	1	0	N/A





Section 6- Accidental Release Measures.

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions: Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up:

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Section 7- Handling and Storage.

Handling: Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents, Strong acids, Strong bases.

Section 8- Exposure Control/Personal Protection.

Exposure Guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

Section 9- Physical and Chemical Properties.

Appearance: Colorless to Almost colorless clear liquid.

Odor: No information available.

Odor Threshold: No information available.

pH: No information available.

Melting Point/Range: 59°C.

Boiling Point/Range: 203°C

Flash Point: 104 °C / 219.2 °F.

Evaporation Rate: No information available.

Flammability (solid,gas): Not applicable.





Flammability or explosive limits

Upper No information available.
 Lower No information available.
Vapor Pressure: No information available.
Density: 1.3206 g/cm³.
Solubility: Soluble in methanol.
Partition coefficient; n-octanol/water No data available.
Autoignition Temperature: No data available.
Decomposition Temperature: No data available.
Viscosity: No data available.
Molecular formula: C₂H₆O₃S.
Molecular Weight: 110.13 g/mol.

Section 10- Stability and Reactivity.

Reactive Hazard: None known, based on information available.
Stability: Hygroscopic. Light sensitive.
Conditions to Avoid: Protect from moisture. Protect from light.
Incompatible Materials: Strong oxidizing agents, Strong acids, Strong bases.
Hazardous Decomposition Products: Carbon monoxide (CO), Carbon dioxide (CO₂), Sulfur oxides.
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

Section 11- Toxicological Information.

Acute Toxicity

Product Information: No acute toxicity information is available for this product.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methyl Methanesulfonate	LD50 = 225 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation: Irritating to eyes, respiratory system and skin.
Sensitization: May cause sensitization by skin contact.
Mutagenic Effects: Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment.
 Amestest: positive.
Reproductive Effects: No information available.
Developmental Effects No information available.
Teratogenicity No information available.
 STOT - single exposure None known



STOT - repeated exposure None known

Aspiration hazard: No information available.

Symptoms / effects, both acute and delayed: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, light headedness, chest pain, muscle pain or flushing.

Endocrine Disruptor Information: No information available.

Other Adverse Effects: The toxicological properties have not been fully investigated.

Section 12- Ecological Information.

Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and Degradability: Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation: No information available.

Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13- Disposal Considerations.

Waste Disposal Methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Section 14- Transport Information.

DOT

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III

TDG

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III

IATA

UN-No: UN2810
Proper Shipping Name: TOXIC LIQUID, ORGANIC, N.O.S.*
Hazard Class: 6.1
Packing Group: III

IMDG/IMO

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.



Hazard Class: 6.1

Packing Group: III

Section 15- Regulatory Information.

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710).

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable.

U.S. Federal Regulations

SARA 313 Not applicable.

SARA 311/312 Hazard Categories See section 2 for more information.

CWA (Clean Water Act) Not applicable.

Clean Air Act Not applicable.

OSHA - Occupational Safety and Health Administration: Not applicable.

CERCLA: Not applicable

California Proposition 65: This product does not contain any Proposition 65 chemicals.

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.

