

MATERIAL SAFETY DATA SHEET

1) CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common Name/Trade name	Tri Methyl Sulfoxonium Iodide
Name of manufacturer/supplier	ESKAY IODINE PVT. LTD. Plot no: 907/2, GIDC Industrial Estate, Jhagadia, Dist: Bharuch Gujarat-393110, INDIA
Contact no:	+91-7567039300
Email:	sunilgsharda@sk1932.com
Synonym:	sulfoxonium, trimethyl-, iodide, sulfonium, trimethyl-, iodide, S-oxide
Chemical family:	Not available
Chemical Formula:	C3-H9-I-O-S
CAS:	1774-47-6

2) COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS	EXPOSURE LIMITS			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
Trimethylsulfoxonium iodide	1774-47-6				>98%

Toxicological Data & ingredients	Trimethylsulfoxonium iodide Intravenous (mouse) LD50: 180 mg/kg Nil Reported Intraperitoneal (mouse) LD50: 900 mg/kg
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3) HAZARDS IDENTIFICATION



Risk Irritating to eyes, respiratory system and skin.

Potential Health Effects

**Acute Health Effects
Swallowed**

Although ingestion is not thought to produce harmful effects, the material may still be damaging to the health of the individual following ingestion, especially where pre-existing organ

Eye This material can cause eye irritation and damage in some persons.

Skin This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. Skin contact is not thought to have harmful health effects,

however the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Inhaled

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

Chronic Health Effects

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population.

Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, on the basis that similar materials tested in appropriate animal studies provide some suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

Iodine and iodides, may give rise to local allergic reactions such as hives, rupture of skin blood vessels, pain in joints or diseases of the lymph nodes.

Iodine and iodides cause goiter and diminished as well as increased activity of the thyroid gland. A toxic syndrome resulting from chronic iodide overdose and from repeated administration of small amounts of iodine is characterized by excessive saliva production, head cold, sneezing, conjunctivitis, headache, fever, laryngitis, inflammation of the bronchi and mouth cavity, inflamed parotid gland, and various skin rashes.

4 - FIRST AID MEASURES

Swallowed

Immediately give a glass of water. " First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

Eye

If this product comes in contact with the eyes: " Wash out immediately with fresh running water. " Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

Skin

If skin contact occurs: " Immediately remove all contaminated clothing, including footwear " Flush skin and hair with running water (and soap if available).

Inhaled

If fumes or combustion products are inhaled remove from contaminated Area. " Lay patient down. Keep warm and rested.

Notes To Physician

Treat symptomatically.

5 - FIRE AND EXPLOSION DATA AND FIRE FIGHTING MEASURES:

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not available.
Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not available

Extinguishing Media Water spray or fog.
Foam.

Fire Fighting Alert Emergency Responders and tell them location and nature of Hazard.
Wear breathing apparatus plus protective gloves.

General Fire Hazards & Hazardous Combustible Products

Combustible solid which burns but propagates flame with difficulty. Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and Any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited. Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), hydrogen iodide, sulfur oxides (SO_x), other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

Fire Incompatibility Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Personal Protection Glasses:
Chemical goggles.
Gloves:
Respirator:
Particulate

6 - ACCIDENTAL RELEASE MEASURES

Minor Spills Clean up all spills immediately.
Avoid breathing dust and contact with skin and eyes.

Major Spills Moderate hazard.
CAUTION: Advise personnel in area. Alert Emergency Responders and tell them location and nature of hazard.

7 - HANDLING AND STORAGE

Precautions Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
Do NOT cut, drill, grind or weld such containers.

In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

Recommended Storage Methods

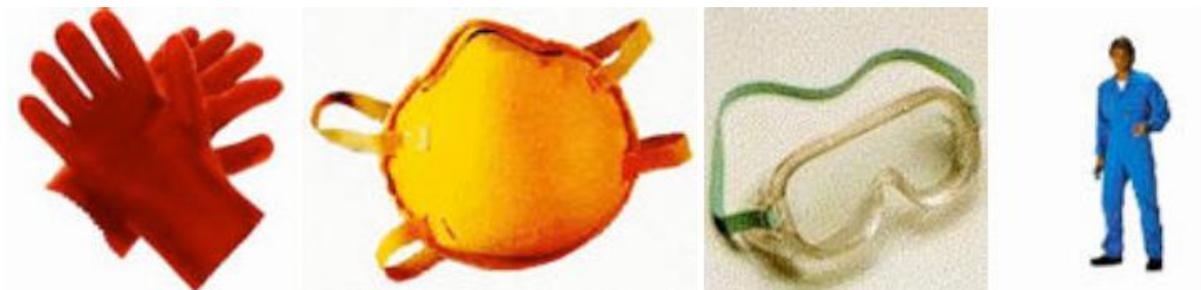
Polyethylene or polypropylene container.
Check all containers are clearly labelled and free from leaks.

Storage Requirements

Store in original containers.
Keep containers securely sealed.
Light-sensitive

8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION



Respirator

Particulate.
Consult your EHS staff for recommendations

Eye

Safety glasses with side shields.
Chemical goggles.

Hands/Feet

NOTE: The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as: frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.

When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

Polychloroprene, nitrile rubber, butyl rubber, fluorocautchouc, polyvinyl chloride
Gloves should be examined for wear and/ or degradation constantly.

Other

Overalls.
P.V.C. apron.
Barrier cream.
Skin cleansing cream.
Eye wash unit.

Engineering Controls

Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties

	Solid.Mixes with water.		
State	Divided solid	Molecular Weight	220.07
Melting Range (°F)	338 (decomposes)	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Miscible
Flash Point (°F)	Not available	pH (1% solution)	Not available
Decomposition Temp (°F)	Not available.	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available.	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	Not Applicable
Volatile Component (% vol)	Negligible	Evaporation Rate	Not applicable

Appearance

Yellow crystalline powder; mixes with water.

10 - STABILITY AND REACTIVITY DATA:

Conditions Contributing To Instability Presence of incompatible materials.Product is considered stable.

Storage Incompatibility Avoid reaction with oxidizing agents.
Avoid strong bases.
For incompatible materials - refer to Section 7 - Handling and Storage.

11 - TOXICOLOGICAL INFORMATION

Toxicity Irritation

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the

lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient Persistence: Water/Soil Persistence: Air Bioaccumulation Mobility
trimethylsulfoxonium iodide No Data Available No Data Available

13 - DISPOSAL CONSIDERATIONS

Waste Disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

15 - REGULATORY INFORMATION

Trimethylsulfoxonium iodide (CAS: 1774-47-6) is found on the following regulatory lists;

"Canada Non-Domestic Substances List (NDSL)"

"US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

16 - OTHER INFORMATION

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the users responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Eskay Iodine Pvt. Ltd. assumes no responsibility for the completeness or accuracy of the information contained herein.

For ESKAY IODINE PVT. LTD.



AUTHORISED SIGNATORY