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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Mesityl oxide, 98%
Code M 1777

2.Hazard identification
2.1Classification of the substance or mixture
Flammable liquids, Category 3
Acute toxicity - Oral, Category 4
Acute toxicity - Dermal, Category 4
Acute toxicity - Inhalation, Category 4
2.2GHS label elements, including precautionary statements
Pictogram(s)

Signal word	Warning
Hazard statement(s)	H226 Flammable liquid and vapour H302 Harmful if swallowed H312 Harmful in contact with skin H332 Harmful if inhaled
Precautionary statement(s)	
Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection. P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/\u2026if you feel unwell. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P312 Call a POISON CENTER/doctor/\u2026if you feel unwell. P321 Specific treatment (see ... on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Storage	P403+P235 Store in a well-ventilated place. Keep cool.
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
4-Methyl-3-penten-2-one	4-Methyl-3-penten-2-one	141-79-7	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
In case of skin contact
Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .
In case of eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
If swallowed
Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention .
4.2Most important symptoms/effects, acute and delayed
Inhalation causes irritation of nose and throat, headache, dizziness, difficult breathing. Contact with liquid or concentrated vapor causes severe eye irritation. Liquid irritates skin. Ingestion causes irritation of mouth and stomach. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
Basic treatment: Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary ... Anticipate seizures and treat if necessary ... For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport ... Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. /Turpentine, terpenes, and related compounds/

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
Use dry chemical, foam, carbon dioxide, or water spray. Water may be ineffective. Use water spray to keep fire-exposed containers cool.
5.2Specific hazards arising from the chemical
Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Personal protection: self-contained breathing apparatus. Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.
6.3Methods and materials for containment and cleaning up
Eliminate all ignition sources. Stop or control the leak, if it can be done without undue risk. Use appropriate foam to blanket release and suppress vapors. Approach release from upwind. Absorb in noncombustible material for proper disposal.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
Fireproof. Separated from strong oxidants. Cool. Keep in the dark.Fireproof. Separated from strong oxidants. Cool. Keep in the dark.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 10 ppm (40 mg/cu m).
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
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
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	COLOURLESS VISCOUS LIQUID, WITH CHARACTERISTIC ODOUR. DARKENS ON STANDING
Colour	Oily, colorless to light-yellow liquid
Odour	... spearmint ...
Melting point/ freezing point	247\u00b0C(lit.)
Boiling point or initial boiling point and boiling range	130\u00b0C
Flammability	Class IC Flammable Liquid: Fl.P. at or above 22.78\u00b0C and below 37.78\u00b0C.Flammable.
Lower and upper explosion limit / flammability limit	Lower flammable limit: 1.4% by volume; Upper flammable limit: 7.2% by volume
Flash point	27\u00b0C(lit.)
Auto-ignition temperature	344.44\u00b0C (USCG, 1999)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	0.0060 cP at 20\u00b0C
Solubility	3 % (NIOSH, 2016)
Partition coefficient n-octanol/water (log value)	log Kow = 1.37 (est)
Vapour pressure	8.76mmHg at 25\u00b0C
Density and/or relative density	0.854
Relative vapour density	3.4 (Air = 1)
Particle characteristics	no data available

10.Stability and reactivity

10.1Reactivity

no data available

10.2Chemical stability

Stable under recommended storage conditions.

10.3Possibility of hazardous reactions

Flammable liquid.Mixing MESITYL OXIDE in equal molar proportions with any of the following substances in a closed container caused the temperature and pressure to increase: 2-aminoethanol, chlorosulfonic acid, ethylene diamine, nitric acid, oleum, or sulfuric acid [NFPA 1991].

10.4Conditions to avoid

no data available

10.5Incompatible materials

Mixing mesityl oxide and 2-aminoethanol /or chlorosulfonic acid or ethylene diamine or nitric acid or oleum or sulfuric acid/ in closed container caused temp and pressure to incr.

10.6Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11.Toxicological information

Acute toxicity

Oral: LD50 Rat oral 655 mg/kg

Inhalation: LC50 Rat inhalation 1130 ppm/4 hr

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12.Ecological information

12.1Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2Persistence and degradability
AEROBIC: Using a standard BOD technique with sewage inoculum, a theoretical BOD of 74% was determined for mesityl oxide over a 5-day incubation period (1). Using a standard BOD technique with activated sewage sludge inoculum, a theoretical BOD of at least 30% was measured for mesityl oxide over a 14-day incubation period(2).
12.3Bioaccumulative potential
An estimated BCF of 1.9 was calculated in fish for mesityl oxide(SRC), using a water solubility of 28,900 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).
12.4Mobility in soil
The Koc of mesityl oxide is estimated as 15(SRC), using a water solubility of 28,900 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that mesityl oxide is expected to have very high mobility in soil.
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal methods
Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information
14.1UN Number
ADR/RID: UN1229 IMDG: UN1229 IATA: UN1229
14.2UN Proper Shipping Name
ADR/RID: MESITYL OXIDE
IMDG: MESITYL OXIDE
IATA: MESITYL OXIDE
14.3Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3
14.4Packing group, if applicable
ADR/RID: III IMDG: III IATA: III
14.5Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
4-Methyl-3-penten-2-one	4-Methyl-3-penten-2-one	141-79-7	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.