Carolina International Sales Co., Inc

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

MATERIAL SAFETY DATA SHEET

1. PRODUCT NAME: Methyl Isobutyl Ketone

2. CHEMICAL NAME:

3. SYNOMYMS: MIBK

4. CAS NUMBER: 108-10-1

IN CASE OF
TRANSPORT EMERGENCY
CONTACT CHEMTREC
USA: 1-800-424-9300
INTERNATIONAL: 1-703-527-3887

5. COMPOSITION: Methyl Isobutyl Ketone (108-10-1)
100%

6. PROPERTIES: ODOR & APPEARANCE: clear, colorless liquid with sharp, sweetish odor
ODOR THRESHOLD: 0.3 – 16ppm
VAPOUR PRESSURE: 6mmHg/0.8kPa (20 c)
EVAPORATION RATE (butyl Acetate=1): 1.6
VAPOR DENSITY (air=1): 3.5
BOILING RANGE: 116 c/241 F
FREEZING POINT: -80 c/-112 F
SPECIFIC GRAVITY: 0.802 (20/20 c)
WATER SOLUBILITY: 18 grams per litre (20 c)
IN OTHER SOLVENTS: soluble in most organic solvents
VISCOSITY: 0.61 centipoise (20 c)
PH: none – (does not liberate hydrogen ions when dissolved)

7. HAZARDS: HMIS (U.S.A.): Health – 0/1, Fire – 3, Reactivity - 0
MATERIAL USE: solvent in coatings

8. FIRE FIGHTING INFORMATION: FLASH POINT: 13 c/56 F (closed cup)
AUTOIGNITION TEMPERATRE: 448 c/840 F
FLAMMABLE LIMITS: 1.2% - 8% not known
COMBUSTION PRODUCTS: carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments
FIREFIGHTING PRECAUTIONS: foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet may spread flames; firefighters must wear SCBA
STATIC DISCHARGE: cannot accumulate a static charge
MECHANICAL IMPACT: not sensitive
CHEMICAL STABILITY: stable; will not polymerize
REACTIVE WITH: strong oxidizing agents
DECOMPOSOTION PRODUCTS: none apart from Hazardous Combustion Products

9. PERSONAL PROTECTION MEASURES: HANDS: “Barricade”, “Responder” & “Tychem”, “4H” gloves – consult supplier to confirm suitability
EYES: safety glasses with side shields or chemical goggles – always protect the eyes
VENTILATION: required to maintain vapor concentration below 50ppm
CLOTHING: impermeable (gloves above) apron, boots, long sleeves recommended if splashing likely

10. FIRST AID PROCEDURES: SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
INHALATION: Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.

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INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.
NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity product. The stomach should only be emptied under medical supervision, after the installation of an airway to protest the lungs.

11. EXPOSURE LIMITS:
TWAEV ppm/mg/m3: 50/205
LD50 ORAL: 1600
SKIN (mg/kg): above 3000
LC50ppm INHALATON: 5700

12. TOXICOLOGICAL INFORMATION:
EFFECTS ACUTE EXPOSSURE
SKIN CONTACT: mild irritant
SKIN ABSORPTION: slight; no toxic effects likely by this route
EYE CONTACT: slightly irritating, vapor irritating above 200ppm; will not damage eyes
INHALATION: vapor above 100ppm may irritate although some reports suggest that 200ppm are readily tolerated, headache, dizziness, nausea may also occur above 200ppm
INGESTION: headache, dizziness, nausea, may occur if ~200ml are ingested
EFFECTS OF CHRONIC EXPOSURE
GENERAL: prolonged exposure may cause skin cracking and dermatitis; prolonged exposure to 100-200ppm may produce skin lesions, appetite loss, and neurological symptoms
SENSITISING: not a sensitizer
REPRODUCTIVE EFFECT: no known effect in humans or animals, not a mutagen or teratogen
SYNERGISTIC WITH: alcohol, halogenated hydrocarbons
LD50: 2080mg/kg (oral, rat) 1900mg/kg (oral, mouse), 1600mg/kg (oral, guinea pig); above 3000mg/kg (skin, rabbit)
LC50: 5700ppm (inhalation, mouse), 24,500ppm (inhalation,rat)

13. ECOLOGICAL INFORMATION:
This product cannot accumulate in living tissue – This product is readily and rapidly biodegradable in the presence of oxygen; 60-70% aerobic biodegradation in 10-20 days; half-life in air estimated as 27 hours.

14. DISPOSAL CONSIDERAIONS:
DO NOT FLUSH TO SEWER; may be incinerated in approved facility after mixing with a flammable product.

15. CARCINOGENIC PROPERTIES & NOTIFICATIONS:
Not a considered a tumorigen or a carcinogen in humans or animals.

16. TRANSPORT INFORMATION:
USA 49 CFR
Product identification number: UN – 1245
Shipping name: methyl isobutyl ketone
Classification: Class 3; packing group II
Label: flammable liquid, Class 3
Class: B2

17. HANDLING & STORAGE:
Store and use a cool dry environment, away from sources of ignition, heat and oxidizing agents. Use with adequate ventilation. Do not cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace.

18. ACCIDENTAL RELEASE MEASURES: LEAK PRECAUTION: dyke to control spillage and prevent environmental contamination. Serious fire potential: blanket spill with foam as a precaution against accidental ignition. Take extremely care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.
HANDLING SPILL: ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.

19. REGULATORY INFORMATION: IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): 500ppm
ALLOWABLE TOLERANCES
Residues of Methyl isobutyl ketone are exempted from the requirement of a tolerance when used as a solvent, cosolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Methyl isobutyl ketone is exempted from the requirement of a tolerance when used as a solvent, cosolvent in accordance with good agricultural practices as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Methyl isobutyl ketone is exempted from the requirement of a tolerance when used as a solvent, coslolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.
OSHA STANDARDS
Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 100ppm (410mg/cu m).
NIOSH RECOMMENDATIONS
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 50ppm (205mg/cu m). Recommended Exposure Limit: 15 min Short-Term Exposure Limit: 75ppm (300mg/cu m).
THRESHOLD LIMIT VALUES
8 hr Time Weighted Avg (TWA): 50ppm; 15 min Short Term Exposure Limit (STEL): 75ppm. Biological Exposure Index (BEI): Determinant: methyl isobutyl ketone in urine; Sampling Time: end of shift; BEI: 2mg/l.
ATMOSPHERIC STANDARDS
This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Methyl isobutyl ketone is produced, as an intermediate or final product, by process units covered under this subpart. Listed as a hazardous air pollutant (HAP) generally known or suspected to cause serious health problems. The clean Air Act, as amended in 1990, directs EPA to set standards requiring major sources to sharply reduce routine emissions of toxic pollutants. EPA is required to establish and phase in specific performance based standards for all air emission sources that emit one or more of the listed pollutants. Methyl isobutyl ketone is included on this list.
CERCLA REPORTABLE QUANTITIES
Persons in charge of vessels of facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 5000 lb or 2270 kg. The NOR toll free number is (800) 424-8802; In the Washington D.C. metropolitan area (202) 426-2675. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3b)
TSCA REQUIREMENTS
Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting rule. The section 8(d) model rule requires manufactures, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Methyl isobutyl ketone is included on this list. Section 8 (a) of TSCA requires manufacture of this substance to report preliminary assessment information concerned with production, exposure, and use to EPA as citied in the preamble in 51 FR 41329. A testing consent order is in effect for methyl isobutyl ketone for health effects

testing. FR citation: 1/23/95.
RCRA REQUIREMENTS
U161; As stipulated in 40 CFR 261.33, when methyl isobutyl ketone, as a commercial chemical product or manufacturing chemical intermediate or an off-specification commercial chemical product or a manufacturing chemical under this subpart. Listed as a hazardous air pollutant (HAP) generally known or suspected to cause serious health problems. The Clean Air Act, as amended in 1990, directs EPA to set standards requiring major sources to sharply reduce routine emissions of toxic pollutants. EPA is required to establish and phase in specific performance based standards for all air emission sources that emit one or more of the listed pollutants. Methyl isobutyl ketone is included on this list.
STATE DRINKING WATER GUIDELINES
California 40 ug/l [QR] [REF –108]
Florida 350 ug/l [QR] [REF – 108]
Massachusetts 350 ug/l [QR] [REF – 108]
Michigan 350 ug/l [QR] [REF-108]
Minnesota 300 ug/l [QR] [REF – 108]
New Hampshire 350 ug/l [QR] [REF – 108]
Wisconsin 500 ug/l [QR] [REF – 108]