

# G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

## 1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME: -----> **Methyl Isobutyl Ketone (MIBK)**  
PRODUCT NUMBER(S):-----> 196500, 196710, 196900

TRADE NAMES/SYNONYMS:-----> 2-Methyl-4-Pentanone, 4-Methyl-2  
-Pentanone, Isopropyl Acetone

CAS-No: 108-10-1

CHEMICAL FAMILY: Ketone

### 1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RECOMMENDED USE: Industrial: Rubber production, Water treatment, Use in coatings, Functional fluids, Lubricants, Use in inks, Use in cleaning compounds, Polymer processing, Manufacture of substances. Laboratory chemicals.

Consumer: Ethanol denaturing, Use in agrochemicals.

USES ADVISED AGAINST: No information available

### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: **40 VERONICA AVENUE  
SOMERSET, NJ 08873**

Telephone: **1-973-589-1450**

Fax: **1-973-589-3072**

### 1.4 Emergency Telephone Number

Emergency Phone: **1-800-424-9300 (CHEMTREC)**

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Acute toxicity, Inhalation (Category 4), H332

Eye irritation (Category 2A), H319

Carcinogenicity (Category 2), H351

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

## 2.2 GHS Label elements, including precautionary statements



Signal word:        **DANGER**

### Hazard statement(s)

**H225 Highly flammable liquid and vapor.**

**H319 Causes serious eye irritation.**

**H332 Harmful if inhaled.**

**H335 May cause respiratory irritation.**

**H351 Suspected of causing cancer**

### Precautionary statement(s)

#### Prevention:

**P201 Obtain special instructions before use.**

**P202 Do not handle until all safety precautions have been read and understood.**

**P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**

**P233 Keep container tightly closed.**

**P240 Ground/bond container and receiving equipment.**

**P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.**

**P242 Use only non-sparking tools.**

**P243 Take precautionary measures against static discharge.**

**P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.**

**P264 Wash skin thoroughly after handling.**

**P271 Use only outdoors or in a well-ventilated area.**

**P280 Wear protective gloves/ eye protection/ face protection.**

**P281 Use personal protective equipment as required.**

#### Response:

**P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.**

**P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.**

**P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**

P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS: May form explosive peroxides.

### 3. INGREDIENTS

#### 3.1 SUBSTANCE:

| Ingredient             | CAS No.  | % by WT. Range | CLASSIFICATION   |
|------------------------|--|----------------|--|
| Methyl Isobutyl Ketone | 108-10-1<br>EC-No. 203-550-1<br>Index-No. 606-004-00-4<br>Reg.-No. 01-2119473980-30-XXXX | 99.6           | Flammable liquids (Category 2), H225<br>Acute toxicity, Inhalation (Category 4), H332<br>Eye irritation (Category 2A), H319<br>Carcinogenicity (Category 2), H351<br>STOT-SE (Category 3) Respiratory System, H335 |

3.2 MIXTURE: Not applicable

### 4. FIRST-AID MEASURES

#### 4.1 DESCRIPTION OF FIRST AID MEASURES:

##### INHALATION: METHYL ISOBUTYL KETONE

**\*\*FIRST AID- Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

## **SKIN CONTACT: METHYL ISOBUTYL KETONE**

**\*\*FIRST AID- Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

## **EYE CONTACT: METHYL ISOBUTYL KETONE**

**\*\*FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flush. Get medical attention immediately.**

## **INGESTION: METHYL ISOBUTYL KETONE**

**\*\*FIRST AID- Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention immediately.**

### **4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:**

**Eye:** Moderately irritating; Symptoms include burning sensation, pain, watering and/or change of vision.

**Skin:** Mildly irritating; Symptoms may include drying, cracking or inflammation.

**Inhalation:** Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma. Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty.

**Ingestion:** May be harmful if swallowed. Symptoms of exposure may include CNS depression with nausea, dizziness, headache, stupor, uncoordinated behavior or unconsciousness. Nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea.

**Chronic:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Typical symptoms are cardiovascular disorders, sweetish taste in the mouth, nausea, vomiting, loss of appetite, strong thirst, burning of eyes and bleeding from the nose. Irritation of the digestive tract, drying of skin, neurological depression and EEG abnormalities, injury to eyes, irritation of the respiratory tract.

**Medical Conditions Aggravated by Exposure:** Skin contact may aggravate an existing dermatitis. Significant exposure may adversely affect people with chronic disease of the central nervous system, respiratory tract, skin, eyes, and digestive tract.

#### **4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:**

Specific details on antidote: No recommendation given.

### **5. FIRE FIGHTING MEASURES**

Flash Point: 14°C (57°F) CC LEL %:1.2

Auto-ignition: 449°C (840.2°F) UEL %:8.0

UNIFORM FIRE CODE: Flammable Liquid Class 1B

**5.1 SUITABLE EXTINGUISHING MEDIA:** Foam--> x CO2--> x Dry  
Chemical--> x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

**5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:** FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE. Keep containers tightly closed. Flammable liquid; isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat.

**CONDITIONS OF FLAMMABILITY:** Flammable in the presence of a source of ignition when the temperature is above the flash point.

**COMBUSTION PRODUCTS:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides, nitrogen oxides and other unidentified organic compounds evolve when this material undergoes combustion.

#### **5.3 ADVICE FOR FIREFIGHTERS:**

Shut off source. Water fog may be used to cool closed containers to prevent pressure build up and possible auto ignition or explosion when exposed to extreme heat. Wear self-contained NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces and where there is exposure to vapors. Use full fire-fighting protective clothing. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind. Do not enter fire area without structural fire fighter's protective equipment including NIOSH/MSHA approved self-contained breathing apparatus (SCBA) in positive pressure mode. Use water spray to knock down vapors. Use halon, carbon dioxide extinguisher or dry powder for small fires. Large fires are best controlled by alcohol foam, fog, and water spray. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to

flames until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire. Extinguish only if fire can be stopped. Use flooding amounts of water as a fog; solid streams may be ineffective. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors; keep upwind. If fire is uncontrollable or containers are exposed to direct flame, water may be ineffective (NFPA 325M, Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids, 1991). Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

## **6. ACCIDENTAL RELEASE MEASURES**

**6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Flammable Liquid; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

### **6.2 ENVIRONMENTAL PRECAUTIONS:**

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system.

### **6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:**

Methods for cleanup and containment:

Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Extinguish all ignition sources. Use explosion proof equipment and equipment that can withstand the corrosive nature of this product. Shut off valves, contain spill, keep out of water sources and sewers, for smaller spills add non-flammable absorbent in spill area. For large spills use aqueous film forming foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.

### **REPORTABLE QUANTITY (RQ): 5000 POUNDS**

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

**6.4 REFERENCE TO OTHER SECTIONS:** See Sections 8 and 13.

## **7. HANDLING AND STORAGE**

**7.1 PRECAUTIONS FOR SAFE HANDLING:** This material presents a fire hazard. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

Advice on general occupational hygiene:

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

**STATIC HAZARD** > Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 "Flammable and Combustible Liquids" and National Fire Protection Association (NFPA 77) "Recommended Practice on Static Electricity".

### **7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally. Store away from incompatible materials. Do not store in direct sunlight. Storage class (TRGS 510): 3: Flammable liquids

**CONTAINER WARNINGS** > Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

**7.3 SPECIFIC END USES:** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **8. EXPOSURE CONTROL (PERSONAL PROTECTION)**

### **8.1 CONTROL PARAMETERS:**

| Ingredient             | CAS No.  | % by WT. Range | Exposure Limits   |
|------------------------|--|----------------|---|
| Methyl Isobutyl Ketone | 108-10-1<br>EC-No. 203-550-1<br>Index-No. 606-004-00-4<br>Reg.-No. 01-2119473980-30-XXXX | 99.6           | 50ppm TWA (OSHA Z-1)<br>75ppm STEL (OSHA Z-1)<br>20ppm TWA (ACGIH)<br>75ppm STEL (ACGIH)<br>50ppm TWA (NIOSH)<br>75ppm STEL (NIOSH) |

Key: (PEL) = Permissible Exposure Limit OSHA  
(TLV) = Threshold Limit Value OSHA & ACGIH  
(STEL) = Short Term Exposure Limit ACGIH  
(WEEL) = USA. Workplace Environmental Exposure Levels  
(TWA) = Time Weighted Average  
CAS = Chemical Abstracts Registry Number  
IDLH = Immediate Danger to Life and Health  
N.E. =None Established

## 8.2 EXPOSURE CONTROLS

**EXPOSURE GUIDELINES:** Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

**ENGINEERING CONTROLS:** Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

**RESPIRATORY PROTECTION:** The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

For vapor concentrations 1 to 10 times ACGIH TWA use an air purifying NIOSH/MSHA Approved respirator with full face-piece and organic vapor cartridges. For concentrations over 10 times ACGIH TWA, in confined areas, and/or where vapor concentrations are unknown use an approved positive pressure full face-piece supplied air respirator.

**BODY CLOTHING:** Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse. Users should determine acceptable performance characteristics of protective clothing.

**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.  
Splash contact



Material: butyl-rubber  
Minimum layer thickness: 0.3 mm  
Break through time: 175 min

**HYGIENE**: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

**EYE /FACE PROTECTION**: Use safety eyewear with splash-guards or face shield. Shower and eyewash should be easily accessible to the work area.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:**

Methyl Isobutyl Ketone 108-10-1

|  |                           |
|--|---------------------------|
| <b>APPEARANCE:</b>                           | Clear mobile liquid       |
| <b>COLOR:</b>                                | Colorless                 |
| <b>ODOR:</b>                                 | Faint ketone odor         |
| <b>ODOR THRESHOLD:</b>                       | No data available         |
| <b>pH:</b>                                   | No data Available         |
| <b>MOLECULAR WEIGHT:</b>                     | 100.2 amu                 |
| <b>MELTING POINT:</b>                        | -80°C (-112°F)            |
| <b>BOILING POINT:</b>                        | 117 - 118°C (243 - 244°F) |
| <b>SPECIFIC GRAVITY:</b>                     | 0.801@25°C                |
| <b>VAPOR PRESSURE:</b>                       | 15mm Hg @ 20°C (68.0°F)   |
| <b>VAPOR DENSITY:</b>                        | 3.46                      |
| <b>WATER SOLUBILITY:</b>                     | 20g/l@20°C (68.0°F)       |
| <b>PARTITION COEFFICIENT N-OCTANOL/WATER</b> | log Pow: 1.31             |
| <b>FLASH POINT:</b>                          | 14°C (57°F) - closed cup  |
| <b>EVAPORATION RATE (BUTYL ACETATE=1):</b>   | 1.54                      |
| <b>UPPER FLAMMABILITY LIMIT:</b>             | 8.0% (V)                  |
| <b>LOWER FLAMMABILITY LIMIT:</b>             | 1.2% (V)                  |
| <b>AUTO INGNITION TEMPERATURE:</b>           | 449°C (840.2°F)           |
| <b>DECOMPOSITION TEMPERATURE:</b>            | No data available         |
| <b>VISCOSITY:</b>                            | No data available         |
| <b>EXPLOSIVE PROPERTIES:</b>                 | No data available         |
| <b>OXIDIZING PROPERTIES:</b>                 | No data available         |

### **9.2 OTHER INFORMATION:**

Surface tension: 23.6 mN/m at 20 °C (68 °F)

## **10. STABILITY AND REACTIVITY INFORMATION**

**10.1 REACTIVITY:** No data available.

**10.2 CHEMICAL STABILITY:** Unstable ( ) Stable (X)  
Stable under recommended storage conditions. Test for peroxide formation before distillation or evaporation. Test for peroxide formation or discard after 1 year.

**10.3 POSSIBILITY OF HAZARDOUS REACTIONS:** Vapors may form explosive mixtures with air.

**HAZARDOUS POLYMERIZATION:** May occur ( ) Will not occur (X)

**10.4 CONDITIONS TO AVOID:** Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.

**10.5 INCOMPATIBLE MATERIALS-->** Strong oxidants such as caustic soda, liquid chlorine, oxygen, sodium hypochlorite, inorganic acids e.g. hydrochloric acid hydrogen peroxide. Copper or copper alloys.

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS:** Fumes, Smoke, Carbon Monoxide, Aldehydes and other decomposition products where combustion is not complete.

## **11. TOXICOLOGICAL INFORMATION**

**11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:**

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

**ACUTE HEALTH EFFECTS:**

Effects of overexposure:

Eye> Moderately irritating; Symptoms include burning sensation, pain, watering and/or change of vision.

Skin> Mildly irritating; Symptoms may include drying, cracking or inflammation.

Inhalation> Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma. Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty.

Ingestion> May be harmful if swallowed. Symptoms of exposure may include CNS depression with nausea, dizziness, headache, stupor, uncoordinated behavior or unconsciousness. Nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea.

**Chronic:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Typical symptoms are cardiovascular disorders, sweetish taste in the mouth, nausea, vomiting, loss of appetite, strong thirst, burning of eyes and bleeding from the nose. Irritation of the digestive tract, drying of skin, neurological depression and EEG abnormalities, injury to eyes, irritation of the respiratory tract.

**Medical Conditions Aggravated by Exposure**> Skin contact may aggravate an existing dermatitis. Significant exposure may adversely affect people with chronic disease of the central nervous system, respiratory tract, skin, eyes, and digestive tract.

#### **ACUTE TOXICITY;**

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

| <b>Ingredient</b>             | <b> Oral LD50 (Rat)</b> | <b> Skin LD50(Rabbit) </b> | <b>Inhalation LC50</b> | <b> </b> |
|-------------------------------|-------------------------|----------------------------|------------------------|----------|
| <b>Methyl Isobutyl Ketone</b> | <b>2080mg/kg</b>        | <b>&gt;16000mg/kg</b>      | <b>8.2-16.4mg/L/4h</b> | <b> </b> |

**SKIN CORROSION/IRRITATION:** Skin - Rabbit Result: Mild skin irritation - 24 h

**SERIOUS EYE DAMAGE/EYE IRRITATION:** Eyes - Rabbit Result: Moderate eye irritation - 24 h

**RESPIRATORY OR SKIN SENSITIZATION:** No data available

**MUTAGENIC EFFECTS:** No data Available

#### **CARCINOGEN STATUS:**

**IARC:** 2B - Group 2B: Possibly carcinogenic to humans (4-Methylpentan-2-one)  
**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**REPRODUCTIVE TOXICITY:** Developmental toxicity (fetotoxicity not teratogenicity) was observed in rodents exposed repeatedly to a vapor concentration which was maternally toxic (3000ppm). Significant effects were

not seen at 300 or 1000ppm.

**Developmental Toxicity - Mouse - Inhalation**

**Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).**

**Effects on Embryo or Fetus: Fetal death.**

**Developmental Toxicity - Mouse - Inhalation**

**Specific Developmental Abnormalities: Central nervous system. Specific**

**Developmental Abnormalities:**

**Musculoskeletal system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system.**

**Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): May cause respiratory irritation.**

**Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available**

**ASPIRATION HAZARD: No data available**

**11.2 ADDITIONAL INFORMATION: Blurred vision, Dermatitis.**

**Methyl Isobutyl ketone has potentiated the neurotoxicity of linear 6-carbon solvents such as hexane in experimental animals. Methyl Isobutyl Ketone has enhanced the Liver toxicity of halogenated solvents in experimental animals.**

**RTECS: SA9275000**

## **12. ECOLOGICAL INFORMATION**

**Methyl Isobutyl Ketone exhibits low acute toxicity to aquatic species.**

### **12.1 AQUATIC TOXICITY:**

**Toxicity to fish:**

**LC0 Leuciscus idus melanotus (Orfe) - 480mg/L – 48 h**

**Toxicity to daphnia and other invertebrates:**

**EC50 Daphnia magna (water flea) - 1550-3623mg/L - 24 h**

**Toxicity to algae:**

**EC50 Scenedesmus quadricauda (Green algae) - 980-2000mg/L – 48 h**

**12.2 PERSISTENCE AND DEGRADABILITY: Methyl Isobutyl Ketone is readily biodegraded. 5 day BOD in freshwater ranged from 56 to 76% of THOD. The estimated half-life for volatilization from water is 15-33 hours. The atmospheric photo-degradation half-life is estimated to be 15 hours.**

**12.3 BIOACCUMULATIVE POTENTIAL: The log octanol/water partition coefficient is 1.31. This suggests that it has low potential to bio-concentrate in aquatic organisms.**

**12.4 MOBILITY IN SOIL: No data available**

### **12.5 RESULTS OF PBT AND vPvB:**

**PBT assessment results:** This substance is not classified as PBT or vPvB.

**12.6 OTHER ADVERSE EFFECTS:** No data available

## **13. DISPOSAL CONSIDERATIONS**

**13.1 WASTE TREATMENT METHODS:** Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. Incinerate under controlled conditions in a permitted facility.

**CONTAMINATED PACKAGING:** Dispose of as unused product.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**RCRA:** The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: U161

If the waste is a spent solvent, the appropriate spent solvent code should be used.

**DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262**

## **14. TRANSPORT INFORMATION**

### **Land Transport (DOT)**

**14.1 USDOT ID Number-----> UN1245**

**14.2 USDOT Shipping Name-----> Methyl Isobutyl Ketone**

**14.3 USDOT Hazard Classification-----> 3 (Flammable Liquid)**

**USDOT Label Codes-----> 3**

**14.4 USDOT Package Code-----> II**

**14.5 Marine Pollutant-----> No**

**14.6 Special precautions for user-----> Yes**

**Emergency Response Guide-----> 127**

**Reportable quantity-----> 5000lbs.**

### **Sea Transport (IMDG)**

**14.1 ID Number-----> UN1245**

**14.2 Proper shipping name-----> METHYL ISOBUTYL KETONE**

**14.3 Hazard Classification-----> 3 (Flammable Liquid))**

Label Codes-----> 3  
14.4 Package Code-----> II  
14.5 Marine Pollutant-----> No  
14.6 Special precautions for user-----> Yes  
EMS-Number-----> F-E, S-D

**Air Transport (IATA)**

14.1 ID Number-----> UN1245  
14.2 Proper shipping name-----> Methyl isobutyl ketone  
14.3 Hazard Classification-----> 3 (Flammable Liquid)  
Label Codes-----> 3  
14.4 Package Code-----> II  
14.5 Environmental hazard-----> No  
14.6 Special precautions for user-----> None

**15. REGULATORY INFORMATION**

**15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:**

**SARA TITLE III (Superfund Amendment and Reauthorization Act)**

**SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed**

**SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed, 4-Methylpentan-2-one CAS 108-10-1**

**SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard, Chronic Health Hazard, and Fire Hazard**

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**

**SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed**

**4-Methylpentan-2-one CAS 108-10-1**

**Reportable Quantity - 5,000lbs/2270kg.**

**SECTION 101(14) Reportable Quantity: 5,000lbs/2270kg**

**Massachusetts Right to Know Components**

**4-Methylpentan-2-one CAS-No. 108-10-1**

**Pennsylvania Right to Know Components**

**4-Methylpentan-2-one CAS-No. 108-10-1**

**New Jersey Right to Know Components**

**4-Methylpentan-2-one CAS-No. 108-10-1**

## California Prop. 65 Components

**WARNING!** This product contains a chemical known to the State of California to cause cancer. 4-Methylpentan-2-one CAS-No. 108-10-1

### TSCA (Toxic Substance Control Act)

4-Methylpentan-2-one CAS: 108-10-1 is listed on the TSCA Inventory.

### International Inventories:

| <u>Country or Region</u>               | <u>Inventory Name</u>  | <u>On inventory yes/no</u> |
|--|--|----------------------------|
| <u>Australia</u>                       | Australian Inventory of Chemical Substances (AICS)                     | Yes                        |
| <u>Canada</u>                          | Domestic Substances List (DSL)   | Yes                        |
| <u>Canada</u>                          | Non-Domestic Substances List (NDSL)                                    | No                         |
| <u>China</u>                           | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                        |
| <u>Europe</u>                          | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                        |
| <u>Europe</u>                          | European List of Notified Chemical Substances (ELINCS)                 | No                         |
| <u>Japan</u>                           | Inventory of Existing and New Chemical Substances (ENCS)               | Yes                        |
| <u>Japan</u>                           | Industrial Safety & Health Law Inventory (ISHL)                        | Yes                        |
| <u>Korea</u>                           | Existing Chemicals List (ECL)  | Yes                        |
| <u>Mexico</u>                          | National Inventory of Chemical Substances (INSQ)                       | Yes                        |
| <u>New Zealand</u>                     | New Zealand Inventory  | Yes                        |
| <u>Philippines</u>                     | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | Yes                        |
| <u>Switzerland</u>                     | Inventory of Notified New Substances (CHINV)                           | Yes                        |
| <u>Taiwan</u>                          | National Existing Chemical Inventory (NECI)                            | Yes                        |
| <u>United States &amp; Puerto Rico</u> | Toxic Substances Control Act Inventory                                 | Yes                        |

**15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.**

## 16. OTHER INFORMATION:

**HMIS** (Hazardous Materials Identification System)

**Hazard Rating:**

4-Extreme

3-High

2-Moderate

1-Slight

0-Insignificant

**NFPA RATINGS (SCALE 0-4):** Health=2 Fire=3 Reactivity=0  
**HMIS RATINGS (SCALE 0-4):** Health=2 Fire=3 Reactivity=1 PPE=G

**Hazard statement(s) from Section 2 and 3:**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

**H335 May cause respiratory irritation.**  
**H351 Suspected of causing cancer.**

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**Revision Content-----> General update all sections**

**Revision Date-----> October 11, 2018**

**Prepared by-----> T.G. Fenstermaker, Jr.**

Acronyms:

|        |   |   |
|--------|---|---|
| ACGIH  | - | American Conference of Governmental Industrial Hygienists         |
| AIHA   | - | American Industrial Hygiene Association                           |
| ANSI   | - | American Nation Standards Institute                               |
| API    | - | American Petroleum Institute                                      |
| CERCLA | - | Comprehensive Emergency Response, Compensation, and Liability Act |
| DOT    | - | U.S. Department of Transportation                                 |
| EPA    | - | U.S. Environmental Protection Agency                              |
| HMIS   | - | Hazardous Materials Information System                            |
| IARC   | - | International Agency For Research On Cancer                       |
| MSHA   | - | Mine Safety and Health Administration                             |
| NFPA   | - | National Fire Protection Association                              |
| NIOSH  | - | National Institute of Occupational Safety and Health              |
| NOIC   | - | Notice of Intended Change (Proposed change to ACGIH TLV)          |
| NTP    | - | National Toxicology Program                                       |
| OPA    | - | Oil Pollution Act of 1990   |
| OSHA   | - | U.S. Occupational Safety & Health Administration                  |
| PEL    | - | Permissible Exposure Limit (OSHA)                                 |
| RCRA   | - | Resource Conservation and Recovery Act                            |
| REL    | - | Recommended Exposure Limit (NIOSH)                                |
| SARA   | - | Superfund Amendments and Reauthorization Act of 1986 Title III    |
| SCBA   | - | Self-Contained Breathing Apparatus                                |
| STEL   | - | Short-Term Exposure Limit (generally 15 minutes)                  |
| TLV    | - | Threshold Limit Value   |
| TSCA   | - | Toxic Substances Control Act                                      |
| TWA    | - | Time Weighted Average (8hr.)                                      |
| WHMIS  | - | Canadian Workplace Hazardous Materials Information System         |

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