

# SAFETY DATA SHEET

Creation Date 09-Feb-2010

Revision Date 18-Jan-2019

Revision Number 3

## 1. Identification

**Product Name** Methyl iso-Butyl Ketone

**Cat No. :** C5412

**CAS-No** 108-10-1

**Synonyms** Hexone; Isobutyl methyl ketone; Isopropylacetone; 4-Methyl-2-pentanone (Certified ACS)

**Recommended Use** Laboratory chemicals.

**Uses advised against** Not for food, drug, pesticide or biocidal product use

### Details of the supplier of the safety data sheet

#### COMPANY

Lab Alley LLC  
22111 Highway 71 West, Suite 601  
Spicewood, Texas 78669  
Tel.: 512-668-9918

#### Emergency Telephone Number

InfoTrac: 800-535-5053

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|   |            |
|---|------------|
| Flammable liquids   | Category 2 |
| Acute Inhalation Toxicity - Vapors                                | Category 4 |
| Serious Eye Damage/Eye Irritation                                 | Category 2 |
| Carcinogenicity   | Category 2 |
| Specific target organ toxicity (single exposure)                  | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). |            |
| Specific target organ toxicity - (repeated exposure)              | Category 2 |
| Target Organs - Kidney, Liver.                                    |            |
| Aspiration Toxicity   | Category 1 |

### Label Elements

#### Signal Word

Danger

#### Hazard Statements

Highly flammable liquid and vapor  
Harmful if inhaled  
Causes serious eye irritation  
Suspected of causing cancer  
May cause respiratory irritation

May cause drowsiness or dizziness  
 May cause damage to organs through prolonged or repeated exposure  
 May be fatal if swallowed and enters airways



### Precautionary Statements

#### Prevention

Use only outdoors or in a well-ventilated area  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep cool  
 Do not handle until all safety precautions have been read and understood

#### Response

IF exposed or concerned: Get medical attention/advice

#### Inhalation

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

#### Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

#### 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  
 Do NOT induce vomiting

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Repeated exposure may cause skin dryness or cracking

**WARNING.** Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

## 3. Composition/Information on Ingredients

| Component             | CAS-No   | Weight % |
|-----------------------|----------|----------|
| Methylisobutyl ketone | 108-10-1 | > 98.5   |

## 4. First-aid measures

|  |   |
|--|---|
| <b>General Advice</b>                      | If symptoms persist, call a physician.  |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.   |
| <b>Inhalation</b>                          | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>Ingestion</b>                           | Aspiration hazard. Do not induce vomiting. Call a physician or Poison Control Center immediately.   |
| <b>Most important symptoms and effects</b> | Breathing difficulties. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting  |
| <b>Notes to Physician</b>                  | Treat symptomatically   |

## 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray. |
| <b>Unsuitable Extinguishing Media</b>   | Water may be ineffective, Do not use a solid water stream as it may scatter and spread fire                                       |
| <b>Flash Point</b>                      | 14 °C / 57.2 °F   |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | 448 °C / 838.4 °F   |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | 8.0% @ 93°C   |
| <b>Lower</b>                            | 1.2% @ 93°C   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

### Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>) peroxides

### 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

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 2             | 3                   | 0                  | N/A                     |

## 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal Precautions</b>      | Use personal protective equipment. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing. |
| <b>Environmental Precautions</b> | Avoid release to the environment. See Section 12 for additional ecological information.   |

**Methods for Containment and Clean Up** Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not ingest. Avoid contact with skin, eyes and clothing. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component             | ACGIH TLV                   | OSHA PEL   | NIOSH IDLH  | Mexico OEL (TWA)   |
|-----------------------|-----------------------------|--|---|--|
| Methylisobutyl ketone | TWA: 20 ppm<br>STEL: 75 ppm | (Vacated) TWA: 50 ppm<br>(Vacated) TWA: 205 mg/m <sup>3</sup><br>(Vacated) STEL: 75 ppm<br>(Vacated) STEL: 300 mg/m <sup>3</sup><br>TWA: 100 ppm<br>TWA: 410 mg/m <sup>3</sup> | IDLH: 500 ppm<br>TWA: 50 ppm<br>TWA: 205 mg/m <sup>3</sup><br>STEL: 75 ppm<br>STEL: 300 mg/m <sup>3</sup> | TWA: 50 ppm<br>TWA: 205 mg/m <sup>3</sup><br>STEL: 75 ppm<br>STEL: 307 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures** Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. 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.

## 9. Physical and chemical properties

|   |                              |
|---|------------------------------|
| <b>Physical State</b>                   | Liquid                       |
| <b>Appearance</b>                       | Clear                        |
| <b>Odor</b>                             | sweet                        |
| <b>Odor Threshold</b>                   | No information available     |
| <b>pH</b>                               | Not applicable               |
| <b>Melting Point/Range</b>              | -84 °C / -119.2 °F           |
| <b>Boiling Point/Range</b>              | 117 °C / 242.6 °F @ 760 mmHg |
| <b>Flash Point</b>                      | 14 °C / 57.2 °F              |
| <b>Evaporation Rate</b>                 | 1.6 (Butyl Acetate = 1.0)    |
| <b>Flammability (solid,gas)</b>         | Not applicable               |
| <b>Flammability or explosive limits</b> |                              |

|  |                          |
|--|--------------------------|
| Upper                                  | 8.0% @ 93°C              |
| Lower                                  | 1.2% @ 93°C              |
| Vapor Pressure                         | 19.9 mmHg @ 25 °C        |
| Vapor Density                          | 3.45 (Air = 1.0)         |
| Specific Gravity                       | 0.80                     |
| Solubility                             | Soluble in water         |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | 448 °C / 838.4 °F        |
| Decomposition Temperature              | No information available |
| Viscosity                              | No information available |
| Molecular Formula                      | C6H12O                   |
| Molecular Weight                       | 100.16                   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Stable under normal conditions.   |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong reducing agents, Strong bases   |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), peroxides                                    |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component             | LD50 Oral                 | LD50 Dermal                  | LC50 Inhalation             |
|-----------------------|---------------------------|------------------------------|-----------------------------|
| Methylisobutyl ketone | LD50 = 2080 mg/kg ( Rat ) | LD50 = 3000 mg/kg ( Rabbit ) | LC50 = 8.2 mg/L ( Rat ) 4 h |

**Toxicologically Synergistic Products** No information available

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

|                        |  |
|------------------------|--|
| <b>Irritation</b>      | Irritating to eyes and respiratory system  |
| <b>Sensitization</b>   | No information available   |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component             | CAS-No   | IARC     | NTP        | ACGIH | OSHA | Mexico     |
|-----------------------|----------|----------|------------|-------|------|------------|
| Methylisobutyl ketone | 108-10-1 | Group 2B | Not listed | A3    | X    | Not listed |

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen  
 A2 - Suspected Human Carcinogen  
 A3 - Animal Carcinogen  
 ACGIH: (American Conference of Governmental Industrial Hygienists)

|                              |   |
|------------------------------|---|
| <b>Mutagenic Effects</b>     | No information available  |
| <b>Reproductive Effects</b>  | Experiments have shown reproductive toxicity effects on laboratory animals. |
| <b>Developmental Effects</b> | Developmental effects have occurred in experimental animals.                |

|  |   |
|--|---|
| <b>Teratogenicity</b>  | Teratogenic effects have occurred in experimental animals.  |
| <b>STOT - single exposure</b><br><b>STOT - repeated exposure</b> | Respiratory system Central nervous system (CNS)<br>Kidney Liver   |
| <b>Aspiration hazard</b>   | Category 1  |
| <b>Symptoms / effects, both acute and delayed</b>                | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting:<br>Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| <b>Endocrine Disruptor Information</b>                           | No information available  |
| <b>Other Adverse Effects</b>                                     | Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.   |

## 12. Ecological information

### Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment.

| Component             | Freshwater Algae   | Freshwater Fish  | Microtox               | Water Flea   |
|-----------------------|--------------------|--|------------------------|--|
| Methylisobutyl ketone | EC50: 400 mg/L/96h | LC50: 496 - 514 mg/L, 96h flow-through (Pimephales promelas) | EC50 = 79.6 mg/L 5 min | EC50: 4280.0 mg/L/24h<br>EC50: 170 mg/L/48h<br>EC50: 4280.0 mg/L/24h |

**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.

| Component             | log Pow |
|-----------------------|---------|
| Methylisobutyl ketone | 1.19    |

## 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.

| Component                        | RCRA - U Series Wastes | RCRA - P Series Wastes |
|----------------------------------|------------------------|------------------------|
| Methylisobutyl ketone - 108-10-1 | U161                   | -                      |

## 14. Transport information

### DOT

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1245                 |
| <b>Proper Shipping Name</b> | METHYL ISOBUTYL KETONE |
| <b>Hazard Class</b>         | 3                      |
| <b>Packing Group</b>        | II                     |

### TDG

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1245                 |
| <b>Proper Shipping Name</b> | METHYL ISOBUTYL KETONE |
| <b>Hazard Class</b>         | 3                      |
| <b>Packing Group</b>        | II                     |

### IATA

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1245                 |
| <b>Proper Shipping Name</b> | METHYL ISOBUTYL KETONE |
| <b>Hazard Class</b>         | 3                      |
| <b>Packing Group</b>        | II                     |

### IMDG/IMO

|                      |                        |
|----------------------|------------------------|
| UN-No                | UN1245                 |
| Proper Shipping Name | METHYL ISOBUTYL KETONE |
| Hazard Class         | 3                      |
| Packing Group        | II                     |

## 15. Regulatory information

### International Inventories

| Component             | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Methylisobutyl ketone | X    | X   | -    | 203-550-1 | -      |     | X     | X    | X    | X     | X    |

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

#### SARA 313

| Component             | CAS-No   | Weight % | SARA 313 - Threshold Values % |
|-----------------------|----------|----------|-------------------------------|
| Methylisobutyl ketone | 108-10-1 | > 98.5   | 1.0                           |

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

CWA (Clean Water Act) Not applicable

#### Clean Air Act

| Component             | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------------------|-----------|-------------------------|-------------------------|
| Methylisobutyl ketone | X         |                         | -                       |

OSHA Occupational Safety and Health Administration  
Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component             | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------------------|--------------------------|----------------|
| Methylisobutyl ketone | 5000 lb                  | -              |

California Proposition 65 This product contains the following proposition 65 chemicals

| Component             | CAS-No   | California Prop. 65         | Prop 65 NSRL | Category                    |
|-----------------------|----------|-----------------------------|--------------|-----------------------------|
| Methylisobutyl ketone | 108-10-1 | Carcinogen<br>Developmental | -            | Developmental<br>Carcinogen |

### U.S. State Right-to-Know Regulations

| Component             | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------|---------------|------------|--------------|----------|--------------|
| Methylisobutyl ketone | X             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Serious risk, Grade 3

**16. Other information**

**Prepared By** Regulatory Affairs  
Lab Alley LLC  
Email: customerservice@laballey.com

**Creation Date** 09-Feb-2010

**Revision Date** 18-Jan-2019

**Print Date** 18-Jan-2019

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**