



5515 North Service Rd. #306  
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megaloid.ca



## 1. IDENTIFICATION

**Name:** Methyl Isobutyl Carbinol


**Synonyms:** methyl amyl alcohol; 4-methy-2-amyl alcohol; 1,3-dimethylbutanol; isobutylmethylmethanol; MIBC

**Product Uses:** solvent for dyestuffs, oils, gums, resins, waxes, nitrocellulose & ethylcellulose; also organic synthesis – particularly lube oil additives, and froth flotation of ores

**Supplier Identifier:** Megaloid Laboratories Limited  
5515 North Service Road # 306  
Burlington, ON L7L 6G4

**EMERGENCY INFORMATION:** Call CHEMTREC - (800) 424-9300  
(CCN# 693764)

## 2. HAZARD IDENTIFICATION

<b>GHS Class</b> <i>(category)</i>	<b>Flammable</b> <i>(3)</i>	<b>Eye irritant</b> <i>(2A)</i>	<b>STOT</b> <i>(3)</i>	<b>Hazardous Pictograms</b> 
<b>Signal Word</b>	<b>WARNING</b>			
<b>Hazard Statements</b>	Flammable liquid and vapour (H226)	Causes serious eye irritation (H319)	May cause respiratory irritation (H335)	

### GHS Precautionary Statements for Labelling

<b>Prevention:</b>	
<b>P210</b>	Keep away from heat, sparks, open flames and hot surfaces. No smoking.
<b>P240</b>	Ground or bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical, ventilating and lighting equipment.
<b>P242</b>	Use only non-sparking tools.
<b>P243</b>	Take precautionary measures against static discharge.

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<b>P261</b>	Avoid breathing fume / gas / mist / vapours / spray.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P280</b>	Wear eye protection, protective gloves and clothing of butyl rubber
<b>Response:</b>	
<b>P370+P378</b>	In case of fire use alcohol-resistant foam, dry chemical powder, water spray or fog to extinguish.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
<b>P304+P340</b>	If inhaled remove person to fresh air and keep comfortable for breathing.
<b>P305+P351+P338</b>	If in eyes, rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
<b>P312</b>	Call a POISON CENTRE or doctor if you feel unwell.
<b>P337 + P313</b>	If eye irritation persists: Get medical advice/attention.
<b>Storage:</b>	
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>P405</b>	Store locked up.
<b>Disposal:</b>	
<b>P501</b>	Dispose of contents and container in accordance with local, regional, national and international regulations.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<b>Chemical Name:</b>	<b>CAS No.</b>	<b>%</b>	<b>Other Identifiers</b>
<i>Methyl Isobutyl Carbinol</i>	108-11-2	100	EC # 203-551-7

### 4. FIRST-AID MEASURES

#### **Inhalation**

Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.

#### **Skin Contact**

Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

#### **Eye Contact**

Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.

#### **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.

#### **Most important symptoms and effects, both acute and delayed**

Eye irritation signs and symptoms may include a burning sensation, redness and/or blurred vision. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

#### **Notes to physician**

Treat symptomatically

#### ***First-aid Comments***

*Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.*

## **5. FIRE FIGHTING MEASURES**

#### **Suitable Extinguishing Media**

Foam, dry chemical, water fog, water spray only to cool & dilute.

#### **Unsuitable Extinguishing Media**

Product floats on water - water jet spreads flames

#### **Specific Hazards Arising from the Product**

Combustion products may include and are not limited to: Carbon dioxide. Carbon monoxide. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.

#### **Special Protective Equipment and Precautions for Fire-fighters**

Firefighters must wear SCBA. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## **6. ACCIDENTAL RELEASE MEASURES**

#### **Personal precautions, protective equipment and emergency procedures**

Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Wear adequate personal protective equipment. Ventilate area. Extinguish or remove all ignition sources. Notify government occupational health and safety and environmental authorities. Workers involved in spill clean-up must wear respirators with organic vapour cartridge; use a fresh cartridge every time cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Use grounded, explosion-proof equipment. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

#### **Methods and materials for containment and cleaning up**

Leak Precaution: dyke to control spillage and prevent environmental contamination

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. Report spills to local health, safety and environmental authorities, as required.

**Environmental Precautions**

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

**7. HANDLING & STORAGE**

**Precautions for Safe Handling**

Avoid creating or breathing product vapour. If vapour is created in use, install adequate exhaust ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator with organic vapour cartridge. Always use non-sparking bronze or aluminum hand tools. All electrical & mechanical equipment (including lighting, switchgear & forklift trucks) used with or around this product must be explosion-proof.

Always ensure that containers, whether empty or full, are tightly sealed unless in use. Always ground or electrically bond the source container, receiving container & pump before transferring contents. Avoid splashing by ensuring that the product nozzle is below the surface in the receiving container. Always ground or electrically bond the source container, receiving container & transfer pump before transferring contents. Never transfer by pressurising containers with air! Nitrogen or carbon dioxide pressurization – after flushing air from the headspace – is acceptable.

Avoid splashing by keeping the product nozzle below the surface in the receiving container.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

**Conditions for Safe Storage**

Minimize sources of ignition, such as static build-up, heat, spark or flame.

**8. EXPOSURE CONTROL & PERSONAL PROTECTION**

<b>Ontario TWAEV</b>	25ppm / 104mg/m <sup>3</sup>	<b>Ontario STEV</b>	40ppm / 167mg/m <sup>3</sup>
<b>AGGIH TLV</b>	25ppm / 104mg/m <sup>3</sup>	<b>ACGIH STEL</b>	40ppm / 167mg/m <sup>3</sup>
<b>OSHA PEL</b>	25ppm / 104mg/m <sup>3</sup>	<b>OSHA STEL</b>	40ppm / 167mg/m <sup>3</sup>

<b>Ventilation</b>	Mechanical ventilation may be required to control airborne titre
<b>Hands</b>	Butyl rubber gloves recommended– other types also protect; confirm suitability with supplier
<b>Eyes</b>	Safety glasses with side shields – always protect the eyes
<b>Clothing</b>	Wear chemical protective clothing e.g. gloves, aprons, boots. Nitrile rubber, Viton®.

**Appropriate Engineering Controls**

Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static electricity discharges which includes bonding of equipment to ground. Provide eyewash and safety shower if contact or splash hazard exists.

## 9. PHYSICAL & CHEMICAL PROPERTIES

<b>Odour &amp; Appearance</b>	mobile liquid with mild, sweet, unpleasant odour - clear colourless liquid
<b>Odour threshold</b>	0.3ppm
<b>pH</b>	Neutral
<b>Melting point/Freezing point</b>	-90°C / -130°F (freezing)
<b>Initial boiling point/boiling range</b>	131°C / 269°F, <i>also</i> 132°C / 270°F
<b>Flash point</b>	41 - 42 °C (106 - 108 °F) (closed cup)
<b>Evaporation rate</b>	0.27 (n-butyl acetate = 1)
<b>Flammability (solid; gas)</b>	Not Available
<b>Lower flammable/explosive limit</b>	1.0%
<b>Upper flammable/explosive limit</b>	5.5 %
<b>Vapour pressure</b>	3.5 mm Hg (0.5 kPa) at 20 °C (68 °F)
<b>Vapour density (air = 1)</b>	3.5
<b>Relative density (water = 1)</b>	Not Available
<b>Solubility</b>	16 g/L in water (25°C / 77°F); most organic solvents
<b>Partition coefficient – n-octanol/water</b>	1.57 (QSAR calculation)
<b>Auto ignition temperature</b>	305°C / 581°F; <i>also</i> 360°C / 680°F
<b>Decomposition temperature</b>	not known – <i>no decomposition below the Autoignition Temperature</i>
<b>Viscosity</b>	4.1centipoise (25°C / 77°F)
<b>Conversion Factor</b>	1ppm = 4.17mg/m <sup>3</sup>
<b>Molecular Weight</b>	102 grams per mole
<b>Molecular Formula</b>	C6-H14-O

## 10. STABILITY AND REACTIVITY

### Reactivity

Dangerously Reactive with strong oxidising agents

### Chemical Stability

Normally stable; will not polymerize.

### Possibility of Hazardous Reactions

None known.

### Conditions to avoid

Open flames, sparks, static discharge, heat and other ignition sources

### Incompatible materials

Keep away from: strong oxidizing agents; strong acids.

### Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

## 11. TOXICOLOGICAL INFORMATION

Acute Toxicity	
<b>LD<sub>50</sub> (oral)</b>	2590mg/kg (rat)
<b>LD<sub>50</sub> (skin)</b>	2870mg/kg (rabbit)
<b>LC<sub>50</sub> (inhalation)</b>	3840ppm (rat)

## 11. TOXICITY, CONTINUED

### Skin Corrosion/Irritation

Human experience shows mild irritation. Prolonged exposure may cause dermatitis due to removal of protective skin oils.

### Serious Eye Damage/Irritation

Human experience shows serious eye irritation – *will not damage eyes if removed promptly*

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

not known – *mist or spray may irritate*

#### Skin Absorption

slight; no toxic effects likely by this route.

**Ingestion**

not known – not a route of industrial exposure

**STOT (Specific Target Organ Toxicity) - Repeated Exposure****Respiratory and/or Skin Sensitization**

Not known to be a respiratory sensitizer.

**Carcinogenicity**

Not a carcinogen. IARC: Not specifically listed. ACGIH®: Not specifically designated. NTP: Not specifically listed. OSHA: Not specifically listed.

**Reproductive Toxicity****Sexual Function and Fertility**

No known effect in humans or animals.

**Germ Cell Mutagenicity**

Not known to be a mutagen.

**12. ECOLOGICAL INFORMATION**

<b>Bioaccumulation</b>	not a bioaccumulator
<b>Biodegradation</b>	biodegrades readily & rapidly in the presence of oxygen; 85% in 28 days, also 91% in 5 days
<b>Abiotic Degradation</b>	not known
<b>Mobility in soil, water</b>	water soluble; moves readily in soil and water
<b>Aquatic Toxicity</b>	
<b>LC<sub>50</sub> (Fish, 96hr)</b>	92.4mg/litre (Pimephelas promelas), 359mg/litre (Oncorhynchus mykiss)
<b>EC<sub>50</sub> (Crustacea, 48hr)</b>	337mg/litre (Daphnia magna), 283mg/litre (Daphnia magna – 24 hr)
<b>EC<sub>50</sub> (Algae)</b>	147mg/litre (Pseudokirchnerella subcapitata)
<b>EC<sub>10</sub> (Bacteria)</b>	>100mg/litre (sewage sludge)

**13. DISPOSAL****Waste Disposal**

**Do not flush to sewer**, recycle solvent if possible, local regulations may permit disposal in sanitary landfill, may be incinerated in approved facility after mixing with a suitable flammable waste

**Containers**

**Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.

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**Pails** must be vented and thoroughly dried prior to crushing and recycling.

**IBCs** (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

**Steel containers** must be inspected, pressure tested & recertified every 5 years.

***Never cut, drill, weld or grind on or near this container,  
even if empty***

#### 14. TRANSPORT INFORMATION

<b>Canada TDG</b>	<b>UN / PIN #</b>	UN2053	
<b>AND</b>	<b>Shipping Name</b>	Methyl Isobutyl Carbinol	
<b>U.S.A. 49 CFR</b>	<b>Class &amp; Packing Group</b>	3, PG III	

<b>Marine Pollutant</b>	Not a marine pollutant
<b>ERAP Required</b>	No
<b>Reportable Quantity (RQ – USA only)</b>	None
<b>ERG No.</b>	129

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

#### 15. REGULATORY INFORMATION

<b>Canada DSL</b>	On Inventory
<b>U.S.A. TSCA</b>	On Inventory
<b>Europe EINECS</b>	On Inventory

##### Canada Regulations

CEPA - National Pollutant Release Inventory (NPRI) - Not specifically listed.

##### U.S.A. Regulations

Immediately Dangerous to Life or Health: 400 ppm

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time-Weighted Avg: 25 ppm (100 mg/cu m). Skin Designation. Vacated 1989 OSHA PEL TWA 25 ppm (100 mg/cu m); STEL 40 ppm (165 mg/cu m), skin designation, is still enforced in some states.



NIOSH Recommendations: Recommended Exposure Limit: 10hr Time-Weighted Avg: 25ppm (100mg/m<sup>3</sup>). Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 40ppm (165mg/m<sup>3</sup>), skin.

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 25 ppm; 15 min Short Term Exposure Limit (STEL): 40 ppm, skin. /Methyl isobutyl carbinol/

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 & 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, environmental impact & energy requirements. Methyl isobutyl carbinol is produced, as an intermediate or final product, by process units covered under this subpart.

EPCRA - Emergency Planning and Community Right-to-Know Act: This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity: This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards:

- Flammable (gases, aerosols, liquids, or solids)
- Serious eye damage or eye irritation
- Specific target organ toxicity (single or repeated exposure)

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **State Regulations:**

Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s): Methyl Isobutyl Carbinol, 108-11-2;

- Pennsylvania - Listed
- New Jersey - Listed
- Illinois - Listed
- Massachusetts - Listed

California Prop. 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

California List of Hazardous Substances - 4-methylpentan-2-ol (108-11-2)

*The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.*

### **International Regulations**

Listed on the chemical inventories of the following countries or qualifies for an exemption:

- Australia (AICS)
- China (IECSC)
- Europe (EINECS)
- Japan (ENCS)
- Japan (ISHL)
- Korea (KECI)
- New Zealand (NZIoC)

## 16. OTHER INFORMATION

<b>NFPA RATING</b>	<b>Health 1</b>	<b>Flammability 2</b>	<b>Instability 0</b>
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Prepared for Megaloid Laboratories by Rob Cangiano  
 Preparation Date: September 2006  
 Revision Dates: September 2009, September 2012, October 2015, November 2018, October 2019

<b>Key to Abbreviations</b>	<b>ACGIH®</b> = American Conference of Governmental Industrial Hygienists <b>AIHA®</b> = AIHA® Guideline Foundation <b>HSDB®</b> = Hazardous Substances Data Bank <b>IARC</b> = International Agency for Research on Cancer <b>NIOSH</b> = National Institute for Occupational Safety and Health <b>NTP</b> = National Toxicology Program <b>OSHA</b> = US Occupational Safety and Health Administration <b>RTECS®</b> = Registry of Toxic Effects of Chemical Substances
<b>References</b>	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
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