

Methyl amyl ketone

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Methyl amyl ketone**

Other means of identification : None assigned.

Recommended use of the chemical and restrictions on use

: Industrial solvent.
Use pattern: Professional use only
Recommended restrictions: None known.

Chemical family : Pure substance

Name, address, and telephone number
of the supplier:

Comet Chemical Company Ltd.

3463 Thomas Street
Innisfill, ON, Canada
L9S 3W4

Supplier's Telephone # : 705-436-5580

24 Hr. Emergency Tel # : GFL Environmental - 1-888-772-2543

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Disagreeable sweet odor.

Most important hazards: Flammable liquid and vapour. Harmful if swallowed. Inhalation may cause respiratory irritation and central nervous system depression.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable Liquid - Category 3

Acute toxicity, oral - Category 4

Skin Irritation - Category 2

Eye irritation - Category 2B

Specific target organ toxicity, single exposure - Category 3 (respiratory)

Specific target organ toxicity, single exposure - Category 3 (narcotic effects)

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

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SAFETY DATA SHEET*Hazard statement(s)*

Flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical and ventilating equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing mist or vapours.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If skin irritation occurs: Get medical advice/attention.
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.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
Rinse mouth.
In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam to extinguish.

Store locked up.
Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards May be sensitive to static discharge. Take measures to prevent the build up of electrostatic charge.

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May form explosive peroxides. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
2-Heptanone	Methyl amyl ketone; MAK	110-43-0	100.00

SECTION 4. FIRST-AID MEASURES**Description of first aid measures**

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- Ingestion* : Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTRE or doctor/physician if you feel unwell.
- Skin contact* : Immediately flush with plenty of water, while removing contaminated clothing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
- Eye contact* : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

- : Harmful if swallowed. May cause respiratory irritation. May cause coughing and breathing difficulties. Symptoms may include redness, pain, tearing and conjunctivitis. May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Causes skin irritation. Symptoms may include redness, itching and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically. This product is a CNS depressant.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Carbon dioxide (CO₂); Dry chemical; Alcohol resistant foam; Water fog

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Highly flammable liquid and vapour. Vapours may ignite explosively. Vapours are heavier than air and may spread along floors. May form explosive peroxides. Empty containers may contain hazardous residues.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable Liquids - Category 3

Hazardous combustion products

- : Carbon dioxide and carbon monoxide. Aldehydes.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

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Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC).
US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep away from flames and hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharges. Ground all equipment during handling. Use explosion-proof electrical and ventilating equipment.

Conditions for safe storage : Keep container tightly closed. Store in cool/well-ventilated place. Store locked up. Keep cool. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Empty containers may contain hazardous residues. After prolonged storage, may release explosive peroxides in the presence of air. Direct sunlight or heat may accelerate the release of peroxides.

Incompatible materials : Halogens.; Acids; Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
2-Heptanone	50 ppm	N/Av	100 ppm ; 465 mg/m ³	N/Av

Exposure controls

Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof electrical and ventilating equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

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- Skin protection** : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye / face protection** : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles
- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid.
- Colour** : Colourless.
- Odour** : Disagreeable sweet odor.
- Odour threshold** : 0.2 ppm
- pH** : None.
- Melting Point/Freezing point** : -36°C (-32.8°F)
- Initial boiling point and boiling range** : 152°C (305.6°F)
- Flash point** : 39 °C (102.2°F)
- Flashpoint (Method)** : Cleveland closed cup
- Evaporation rate (BuAe = 1)** : 0.34
- Flammability** : Not applicable.
- Lower explosion or flammability limit (% by vol.)** : Not available.
- Upper explosion or flammability limit (% by vol.)** : Not available.
- Oxidizing properties** : None known.
- Explosive properties** : May form explosive peroxides.
- Vapour pressure** : 2.8 mbar @ 20°C
- Relative vapour density** : 3.9
- Relative density / Specific gravity** : 0.81
- Solubility in water** : Slightly soluble.
- Other solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : 1.98
- Auto-ignition temperature** : 393°C (739.4°F)
- Decomposition temperature** : No exotherm to boiling
- Viscosity** : Not available.
- Particle characteristics** : Not applicable.
- Volatiles (% by weight)** : No data available.
- Volatile organic Compounds (VOC's)** : No information available.
- Absolute pressure of container** : Not applicable.
- Flame projection length** : Not applicable.

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Other physical/chemical comments

: None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal conditions. May form explosive peroxides.

Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid : Open flames, sparks, high heat, direct sunlight, and close proximity to incompatible substances. Do not use in areas without adequate ventilation. Keep away from direct sunlight.

Incompatible materials : Incompatible materials (see Section 7).

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption
: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory tract irritation. Coughing, difficulty breathing, and tightness in chest. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Sign and symptoms ingestion

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin

: Causes skin irritation. Symptoms may include redness, itching and swelling.

Sign and symptoms eyes

: Causes eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Potential Chronic Health Effects

: Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : May cause respiratory irritation. May cause drowsiness or dizziness.

Not classified as a specific target organ toxicity - repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials : No information available.

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Toxicological data : See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
2-Heptanone	>16 mg/L	1670 mg/kg	10,300 mg/kg

Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Do not allow material to contaminate ground water system.
 See the following tables for the substance's ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
2-Heptanone	110-43-0	131 mg/L (Fathead minnow)	n/av	none

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
2-Heptanone	110-43-0	90.1 mg/L (Daphnia magna)	n/av	none

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
2-Heptanone	110-43-0	75.5 mg/L (Green algae)	n/av	none

Persistence and degradability

: Readily biodegradable

Bioaccumulation potential

: No information available.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
2-Heptanone (CAS 110-43-0)	1.98	7

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

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RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1110	n-AMYL METHYL KETONE	3	III	
TDG Additional information	May be shipped as a Limited Quantity when transported in containers no larger than 5.0 L, in combination packagings no larger than 30 kg gross mass.				
49CFR/DOT	UN1110	n-AMYL METHYL KETONE	3	III	
49CFR/DOT Additional information	May be shipped as a Limited Quantity, refer to section 173.150.				
ICAO/IATA	UN1110	n-Amyl methyl ketone	3	III	
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				
IMDG	UN1110	n-AMYL METHYL KETONE	3	III	
IMDG Additional information	Maybe shipped as a Limited Quantity, consult the IMDG regulations for details.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame - No smoking.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity (RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de Minimis Concentration
2-Heptanone	110-43-0	Yes	N/Ap	N/Av	No	No

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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable liquid; Skin irritation; Eye irritation; Specific target organ toxicity, single exposure

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
2-Heptanone	110-43-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
2-Heptanone	110-43-0	203-767-1	Present	Present	Not listed	Not listed	Present	Not listed

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- ECHA: European Chemicals Agency
- ECOTOX: U.S. EPA Ecotoxicology Database
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- IBC: Intermediate Bulk Container
- IECSC: Inventory of Existing Chemical Substances
- IMDG: International Maritime Dangerous Goods
- IOC: Inventory of Chemicals
- IUCLID: International Uniform Chemical Information Database
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NOEC: No observable effect concentration

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NTP: National Toxicology Program
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 SDS: Safety Data Sheet / Material Safety Data Sheet
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TSCA: Toxic Substance Control Act
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
 2. ECHA - European Chemical Agency
 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
 4. Safety Data Sheets from manufacturer.
 5. US EPA Title III List of Lists
 6. California Proposition 65 List
 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p><u>Prepared for:</u> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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