

Heptane

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Heptane**

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, colorless liquid. Sweet odour.

Most important hazards: Highly flammable; Causes skin irritation.; Occupational exposure to the substance or mixture may cause adverse effects.

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 liquids - Category 2

Skin Irritation - Category 2

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

Aspiration Toxicity - Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapour.
Causes skin irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.

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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.
Avoid breathing mist or vapours.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
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 inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
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 which do not result in classification :May be sensitive to static discharge.Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause eye irritation. May cause respiratory tract irritation.

Avoid release to the environment.

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>
Heptane	Dipropylmethane Heptyl hydride	142-82-5	100.00

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

- Ingestion* : Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. 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.

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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

: Causes skin irritation. Redness, swelling, itching and dryness. May cause respiratory irritation. May cause coughing and breathing difficulties. 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. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. May cause eye irritation. Symptoms may include stinging and tearing.

Indication of any immediate medical attention and special treatment needed

: Treat symptomatically. Aspiration hazard.. 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. Static discharge, impact, friction, and heat may ignite exposed chemical material. Empty containers may contain hazardous residues.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable liquids - Category 2

Hazardous combustion products

: Carbon dioxide, carbon monoxide and other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Do not enter without wearing specialized protective equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. A full-body encapsulating chemical protective suit with positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

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.

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

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- : 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. Avoid breathing mist or vapours. 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

- : In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC).

US CERCLA Reportable quantity (RQ): None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Wear protective gloves 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.

- 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.

- Incompatible materials** : Oxidizing agents

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>
Heptane	400 ppm	500 ppm	500 ppm (2000 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 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.

- Skin protection** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. Wear protective gloves. Advice should be sought from glove suppliers.

- 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.

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SAFETY DATA SHEET**General hygiene considerations**

- : Avoid breathing mist or vapor. 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** : Clear, colorless.
- Odour** : Strong, sweet odour.
- Odour threshold** : 230 ppm
- pH** : No information available.
- Melting Point/Freezing point** : <-90°C (<-130°F)
- Initial boiling point and boiling range** : 90-100°C (194-212°F)
- Flash point** : -4°C (424.8°F)
- Flashpoint (Method)** : Cleveland closed cup
- Evaporation rate (BuAe = 1)** : 2
- Flammability** : Not applicable.
- Lower explosion or flammability limit (% by vol.)** : 1%
- Upper explosion or flammability limit (% by vol.)** : 6.7%
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : 40 mm Hg
- Relative vapour density** : 3.5
- Relative density / Specific gravity** : 0.6930 @ 20°C
- Solubility in water** : Insoluble.
- Other solubility(ies)** : Soluble in most organic solvents.
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : 4.7
- Auto-ignition temperature** : 204 °C (399.2 °F)
- Decomposition temperature** : No information available.
- Viscosity** : 0.33 mPa.s @ 25°C
- Particle characteristics** : Not applicable.
- Volatiles (% by weight)** : No information available.
- Volatile organic Compounds (VOC's)** : No information available.
- Absolute pressure of container** : Not applicable.
- Flame projection length** : Not applicable.
- Other physical/chemical comments** : Molecular formula: C7-H16

SECTION 10. STABILITY AND REACTIVITY

- Reactivity** : Not normally reactive.
- Chemical stability** : Stable under normal conditions.

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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.

Incompatible materials

: Strong oxidizing agents; Strong acids; Strong alkalis.

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. May cause headache, nausea, dizziness and other symptoms of central nervous system depression.

Sign and symptoms ingestion

: 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

: May cause eye irritation. Symptoms may include stinging and tearing.

Potential Chronic Health Effects

: Prolonged exposure can cause central nervous system effects.

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

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

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

Synergistic materials

: No information available.

Toxicological data

: See below for toxicological data on the substance.

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<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Heptane	25 000 ppm (102.5 mg/L) (vapour)	> 15 000 mg/kg	> 2000 mg/kg (No mortality)

Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Very toxic to aquatic life with long lasting effects. Do not allow material to contaminate ground water system.
See the following tables for the substance's ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC₅₀ / 96h	NOEC / 21 day	M Factor
Heptane	142-82-5	5.738 mg/L (Rainbow trout)	1.284 mg/L/28-day (Rainbow trout)	None.

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC₅₀ / 48h	NOEC / 21 day	M Factor
Heptane	142-82-5	0.2 mg/L Chaetogammarus marinus (Water flea)	0.06 - 0.23 mg/L	1

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC₅₀ / 96h or 72h	NOEC / 96h or 72h	M Factor
Heptane	142-82-5	4.338 mg/L/72hr (Green algae)	0.97 mg/L/72hr	None.

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential

: No information available.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log K_{ow})</u>	<u>Bioconcentration factor (BCF)</u>
Heptane (CAS 142-82-5)	4.66	2000

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.

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- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- 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
49CFR/DOT	UN1206	HEPTANES	3	II	
49CFR/DOT Additional information	May be shipped as a limited quantity. Check 49 CFR Section 173.150.				
TDG	UN1206	HEPTANES	3	II	 
TDG Additional information	Limited quantity exemption may be used if product is in containers of 1.0 liters or less. Consult the regulations for details.				
IMDG	UN1206	HEPTANES	3	II	 
IMDG Additional information	Limited quantity exemption may be used if product is in containers of 1.0 liters or less. Consult the regulations for details.				
ICAO/IATA	UN1206	Heptanes	3	II	 
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				

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

Environmental hazards : Very toxic to aquatic life with long lasting effects. 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:



Comet Chemical Company Ltd.
3463 Thomas Street
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Telephone: (705) 436 5580

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<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
Heptane	142-82-5	Yes	None.	None.	No	No

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

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
Heptane	142-82-5	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
Heptane	142-82-5	205-563-8	Present	Present	(2)-7	KE-18271	Present	HSR001164

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CNS: Central Nervous System
COC: Cleveland Open Cup
CSA: Canadian Standards Association
DOT: Department of Transportation
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values

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References : TWA: Time Weighted Average
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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Revision Information : (M)SDS sections updated: 1. IDENTIFICATION 5. FIRE-FIGHTING MEASURES 9. PHYSICAL AND CHEMICAL PROPERTIES 15. REGULATORY INFORMATION
flammable

Other special considerations for handling : Provide adequate information, instruction and training for operators.

<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	 COMET CHEMICAL COMPANY LTD.
<u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	 icc ComplianceCenter

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