



5515 North Service Rd. #306  
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**RDC**  
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## 1. IDENTIFICATION

**Name:** Commercial Heptane, Ultra Low Aromatic  
**Synonyms:** ULACH  
**Product Uses:** Solvent

**Supplier:** Megaloid Laboratories Limited  
**Identifier:** 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 liquids</b> <i>(2)</i>	<b>Aspiration hazard</b> <i>(1)</i>	<b>Skin irritant</b> <i>(2)</i>	<b>Chronic toxicity</b> <i>(1)</i>	<b>STOT</b> <i>(3)</i>	<b>Aquatic acute</b> <i>(1)</i>
<b>Signal Word</b>	<b>DANGER</b>					
<b>Hazard Statements</b>	Highly flammable liquid & vapour (H225)	May be fatal if swallowed & enters airways (H304)	Causes skin irritation (H315)	Very toxic to aquatic life with long lasting effects (H410)	May cause drowsiness or dizziness (H336)	Very toxic to aquatic life (H400)

### Hazardous Pictograms



### GHS Precautionary Statements for Labelling

**Prevention:**

P210	Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, and lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist, vapours, spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P331	Do NOT induce vomiting.
P303+P361+353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder to extinguish.
P391	Collect spillage
<b>Storage:</b>	
P403+P235	Store in a well-ventilated place. Keep cool.
<b>Disposal:</b>	
P501	Dispose of contents and container in accordance with local, regional, national and international regulations.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	CAS No.	%	Other Identifiers
Heptane, branched, cyclic and linear	426260-76-6	100	ULACH

### 4. FIRST-AID MEASURES

#### Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Get medical or attention if you feel unwell or are concerned.

#### **Skin Contact**

Wash with soap & plenty of water. Remove contaminated clothing. 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. 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**

Overexposure to vapours may result in respiratory tract irritation, coughing, nausea, headaches and vomiting. Dry skin and possible irritation with repeated or prolonged exposure.

#### **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**

CO2, foam, dry chemical, water fog or spray only to cool, product floats on water

#### **Unsuitable Extinguishing Media**

Water jet spreads flames.

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

Highly Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapours may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapour/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapours are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

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

Firefighters must wear SCBA Full Bunker Gear Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or

dispersing vapours and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely.

**Serious Fire Potential:**

*blanket spill with foam as a precaution against accidental ignition. Take extreme care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.*

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Distant ignition and flashback are possible

### 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.

Minimize the use of water to prevent environmental contamination.

### 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.

## 7. HANDLING & STORAGE

### Precautions for Safe Handling

***Always use non-sparking bronze or aluminium hand tools. All electrical and mechanical equipment (including lighting, switchgear and forklift trucks) used with or around this product must be explosion-proof.***

Heptane accumulates a static charge on agitation or transfer from one container to another & heptane vapour can be ignited by static discharge. Always ground or electrically bond the source container, receiving container & transfer pump before transferring contents. Avoid splash by ensuring that the product nozzle is below the surface in the receiving container. ***If high pressure gas must be used to transfer heptane, use compressed nitrogen; never transfer with compressed air!***

Empty containers may contain a flammable or explosive vapour. Always ensure that containers, whether empty or full, are tightly sealed unless in use. Avoid breathing product vapour. Use with adequate ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator with organic vapour cartridge.

***Do not use as a solvent for manual wiping of surfaces. The accumulation of static charge may cause a fire!***

### Conditions for Safe Storage

Store in a dry environment, away from sources of ignition, heat and oxidising agents. Ensure that

containers, whether empty or full, are tightly sealed unless in use. Keep containers, empty or full, tightly sealed unless in use.  
 Avoid generating or breathing product mist. If mist forms in use install adequate ventilation to clear workplace air.  
 Never cut, drill, weld or grind on or near this container.  
 Avoid prolonged contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

**WHEN FILLING STORAGE TANKS WITH THIS PRODUCT, IN ADDITION TO NORMAL GROUNDING PROCEDURES, READ THE FOLLOWING:**

*This product may form an explosive mixture inside a bulk storage tank. Prior to filling a bulk storage tank with this product, consider ventilating the headspace with nitrogen. In addition, consider asking the supplier to put an anti-static additive in the product when you order. If the bulk tank has a floating product level indicator, this should be inspected regularly. The float MUST HAVE a firmly fixed ground wire connecting it to its support cable. This connection must be free of corrosion.*

**For details, consult NFPA 77, 2007: "Recommended Practice on Static Electricity"**

## 8. EXPOSURE CONTROL & PERSONAL PROTECTION

<b>Ontario TWAEV</b>	400ppm / 1635mg/m <sup>3</sup>	<b>Ontario STEV</b>	500ppm / 2045mg/m <sup>3</sup>
<b>ACGIH TLV</b>	400ppm / 1640mg/m <sup>3</sup>	<b>ACGIH STEL</b>	500ppm / 2045mg/m <sup>3</sup>
<b>OSHA PEL</b>	400ppm / 1640mg/m <sup>3</sup>	<b>OSHA STEL</b>	500ppm / 2000mg/m <sup>3</sup>

<b>Ventilation</b>	mechanical ventilation may be needed to control airborne titre to regulated limits; make respirators <i>with organic vapour cartridge</i> available to all workers in area should ventilation fail; <i>store respirators in airtight containers (eg: "Tupperware", "Zip Lock")</i> to maintain freshness
<b>Hands</b>	nitrile or "Viton" gloves recommended – <i>other types also protect; confirm suitability with supplier</i>
<b>Eyes</b>	safety glasses with side shields – <i>always protect the eyes</i>
<b>Clothing</b>	additional protection may be necessary to prevent skin contact including items such as chemical resistant boots, aprons, arm covers, hoods, coveralls.

## 9. PHYSICAL & CHEMICAL PROPERTIES

<b>Odour &amp; Appearance</b>	clear, colourless liquid with pleasant gasoline-like odour
<b>Odour threshold</b>	>230ppm (938.8 mg/m <sup>3</sup> ) – <b>too close to the TLV for reliable warning</b>
<b>pH</b>	none – <i>(does not liberate hydrogen ions when dissolved)</i>
<b>Melting point/Freezing point</b>	below -90°C / -130°F*
<b>Initial boiling point/boiling range</b>	88-100°C / 190-212°F*
<b>Flash point</b>	-9°C / 15°F (closed cup)
<b>Evaporation rate</b> (butyl Acetate=1)	>1
<b>Flammability</b> (solid; gas)	no data available
<b>Lower flammable/explosive limit</b>	1.2%

<b>Upper flammable/explosive limit</b>	6.7%
<b>Vapour pressure</b>	40mmHg / 5.3kPa* (22°C / 72°F)
<b>Vapour density</b> (air=1)	3.50
<b>Relative density</b>	5.771 lbs./gal
<b>Solubility</b> (water)	3milligrams per litre (20oC / 68°F)
<b>Partition coefficient – n-octanol/water</b>	4.66
<b>Auto ignition temperature</b>	204°C / 399°F
<b>Decomposition temperature</b>	not known
<b>Viscosity</b>	0.49centipoise (25°C / 77°F)
<b>Molecular Weight</b>	100grams per mole

## 10. STABILITY AND REACTIVITY

### Reactivity

Dangerously reactive with strong oxidizing agents.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Hazardous reactions not anticipated

### Conditions to avoid

High temperatures. Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible materials

Oxidizing agents (e.g. peroxides), reducing agents (e.g. hydroquinone).

### Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICITY

Acute Toxicity	
<b>Skin Contact</b>	drying, irritating if not removed – <i>rapid evaporation; prolonged accidental contact unlikely</i>
<b>Skin Absorption</b>	slight; no toxic effects likely by this route
<b>Eye Contact</b>	irritating if not removed, will not damage eyes; vapour apparently not irritating at 5000ppm
<b>Inhalation</b>	at 5000ppm*, dizziness, drowsiness, intoxication within 4 min – persisting for 15-20 minutes ( <i>some giddiness is seen at 1000ppm [in 6 min] &amp; at 2000ppm [in 4 min]</i> )
<b>Ingestion</b>	very low toxicity – dizziness, drowsiness, intoxication may occur, possible diarrhoea
<b>LD<sub>50</sub> (oral)</b>	17,000mg/kg mg/kg (rat); 5000mg/kg (mouse), >5000mg/kg (rat) – <i>no mortality</i>
<b>LD<sub>50</sub> (skin)</b>	3000 & 3400mg/kg (rabbit), >2000mg/kg (rabbit) – <i>no mortality</i>
<b>LC<sub>50</sub> (inhalation)</b>	25,200ppm (rat), 7160ppm (rat) – <i>no mortality</i>
<i>* NOTE: Heptane is sufficiently volatile that 5000ppm is readily achieved at ambient temperature.</i>	

## 11. TOXICITY, CONTINUED

### General

Prolonged exposure (over one hour) may cause redness, swelling & pain; repeated application May cause dermatitis due to aggressive solvency; *highly volatile; prolonged contact is not accidental*

*NOTE: Prolonged inhalation of hexane causes peripheral neuropathy; a similar effect following heptane inhalation cannot be ruled out.*

### Sensitising

Not a sensitiser in humans or animals

### Carcinogen/Tumorigen

Not considered a tumorigen or a carcinogen in humans or animals. IARC: Not specifically listed. ACGIH®: Not specifically designated. NTP: Not specifically listed. OSHA: Not specifically listed.

### Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists. IARC = International Agency for Research on Cancer. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration.

### Reproductive Effect

No known effect in humans or animals

### Mutagen

No known effect in humans or animals

### Synergistic With

Not known

## 12. ECOLOGICAL INFORMATION

<b>Bioaccumulation</b>	volatile & readily metabolised by microorganisms; nevertheless, potential bioaccumulator
<b>Biodegradation</b>	biodegrades readily in the presence of oxygen; 23-100% in 5 days depending on bacterial inoculum & test conditions; also 70% in 10 days, 100% in 25 days, 100% in 4 days, 23% in 3 days
<b>Abiotic Degradation</b>	destroyed by direct photolysis; estimated ½-life in air of 1.1days & 4.5 days
<b>Mobility in soil, water</b>	water insoluble; moves slowly in soil & water; rapid evaporation from soil, limiting movement
<b>Aquatic Toxicity</b>	
<b>LC<sub>50</sub> (Fish, 96hr)</b>	375mg/litre (Tilapia mossambica), 220-270mg/litre (Leuciscus idus), >100mg/litre (Oncorhynchus kisutch) – <i>no mortality</i>
<b>EC<sub>50</sub> (Crustacea, 24hr)</b>	1.5mg/litre (Daphnia magna), 0.1mg/litre (Mysidopsis bahia), 0.2mg/litre (Chaetogammarus marinus)
<b>EC<sub>50</sub> (Algae)</b>	4.34mg/litre (Pseudokirchnerella subcapitata)
<b>EC<sub>50</sub> (Bacteria)</b>	22.6mg/litre (Tetrahymena pyriformis, growth inhibition)
<b>TLm (Fish, 48hr)</b>	4924mg/litre (Gambusia affinis)

**NOTE:** Extremely low water solubility & high volatility makes aquatic toxicity testing very difficult. Despite classification as “toxic to aquatic organisms”, toxicity in the aquatic environment must be limited due to: (a) low water solubility & low specific gravity cause heptane to float, (b) high volatility rapidly removes floating heptane from the water surface & (c) rapid biodegradability also removes the heptane from the environment.

## 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.

**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> 1206	
<b>AND</b>	<b>Shipping Name</b> Heptanes	
<b>U.S.A. 49 CFR</b>	<b>Class &amp; Packing Group</b> 3,II	

<b>Marine Pollutant</b>	Yes
<b>ERAP Required (CA only)</b>	No
<b>Emergency Response Guide No.</b>	128
<b>Reportable Quantity (RQ – USA only)</b>	No

\*The marine pollutant mark is not required when transported by road or rail (TDG).

*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)  
Part 5.**

### U.S.A. Regulations:

Immediately Dangerous to Life or Health: 750 ppm

**OSHA Standards:** Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 500 ppm (2000 mg/cu m).

Vacated 1989 OSHA PEL TWA 400 ppm (1600 mg/cu m); STEL 500 ppm (2000 mg/cu m) is still enforced in some states.

**NIOSH Recommendations:** Recommended Exposure Limit: 10 Hour Time-Weighted Average: 85 ppm (350 mg/cum) Recommended Exposure Limit: 15 Minute Ceiling Value: 440 ppm (1800 mg/cu m)

**Threshold Limit Values:** 8 hr Time Weighted Avg (TWA): 400 ppm; 15 min Short Term

Exposure Limit (STEL): 500 ppm.

**CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):**  
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

**CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**  
Acute Health Hazard: Yes

Chronic Health Hazard: Yes

Fire Hazard: Yes

Pressure Hazard: No

Reactive Hazard: No

**EPA (CERCLA) Reportable Quantity (in pounds):**

This material does not contain any chemicals with CERCLA Reportable Quantities.

**16. OTHER INFORMATION**

<b>NFPA RATING</b>	<b>Health 1</b>	<b>Flammability 3</b>	<b>Instability 0</b>
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**Prepared for** Megaloid Laboratories **by** Rob Cangiano  
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<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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