



# SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2022

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## SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

**Product Name** n-Heptane  
**Product Code(s)** HC5400  
**Recommended Use** For Laboratory Research Use Only  
Not for Human or Animal Drug Use

**Supplier** Bio Basic Inc.  
**Address** 20 Konrad Crescent, Markham, Ontario,  
Canada, L3R 8T4  
**Telephone** (905) 474 4493  
**Fax** (905) 474 5794  
**For Chemical Emergency Phone#** (416) 995 9730

## SECTION 2. ----- HAZARDS IDENTIFICATION -----

### Classification

Flammable liquid - Category 2; Skin irritation - Category 2; Specific target organ toxicity (single exposure) - Category 3; Aspiration hazard - Category 1

### Label Elements



Signal Word: Danger

Highly flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause drowsiness or dizziness.

Prevention:

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, and lighting equipment. Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash hands and skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTRE or doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use dry chemical powder, appropriate foam to extinguish.

Storage:

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

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container to  
An approved waste disposal plant.

#### Other Hazards

In use may form flammable/explosive vapour-air mixture.

### SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	CAS-No	Weight %
n-Heptane	205-563-8	142-82-5	<100

### SECTION 4. ----- FIRST-AID MEASURES -----

#### First-aid Measures

##### Inhalation

Move to fresh air. Keep at rest in a position comfortable for breathing. Get medical advice or attention if you feel unwell or are concerned.

##### Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with water or shower. Get medical advice or attention if you feel unwell or are concerned.

##### Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

##### Ingestion

Seek immediate medical attention. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again.

##### First-aid Comments

Move out of dangerous area. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

#### Most Important Symptoms and Effects, Acute and Delayed

At high concentrations symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness. Aspiration hazard.

#### Immediate Medical Attention and Special

##### Treatment Target Organs

Nervous system, respiratory system.

##### Medical Conditions Aggravated by Exposure

Dermatitis, respiratory conditions.

### SECTION 5. ----- FIRE FIGHTING MEASURES -----

#### Extinguishing Media

##### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

##### Unsuitable Extinguishing Media

High volume water jet.

### Specific Hazards Arising from the Product

Flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Can be ignited by static discharge. Liquid can float on water and may travel to distant locations and/or spread fire. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire hazard. Very toxic carbon monoxide, carbon dioxide.

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

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 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. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient. Monitor area for flammable or explosive atmosphere.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Do not use absorbents. Contain spill using noncombustible material such as vermiculite, earth or sand. Store recovered product in suitable containers that are: tightly-covered. Place in container for disposal according to local / national regulations.

### Other Information

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

## SECTION 7. ----- HANDLING AND STORAGE-----

### Precautions for Safe Handling

Avoid generating vapours or mists. Avoid breathing in this product. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Electrically bond and ground equipment. Ground clips must contact bare metal. Use non-sparking tools. Increase conductivity by reducing flow rate in transfer operations and/or handle at lower temperature. Use an inert gas in the handling equipment and storage vessel. Wear personal protective equipment to avoid direct contact with this chemical. Do not puncture or incinerate container even when empty. Wash hands thoroughly after handling this material.

### Conditions for Safe Storage

Store in an area that is: dry, well-ventilated, out of direct sunlight and away from heat and ignition sources. Store in a closed container. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet.

## SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
n-Heptane	400 ppm	500 ppm	500 ppm			

### Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

## Individual Protection Measures

### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Nitrile rubber, polyvinyl alcohol, Viton®/butyl rubber, Silver Shield/4H® (PE/EVAL/PE).

### Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

## SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

### Basic Physical and Chemical Properties

<b>Appearance</b>	Clear.
<b>Odour</b>	Sweet
<b>Odour Threshold</b>	Not available
<b>pH</b>	Not applicable
<b>Melting Point/Freezing Point</b>	-91 °C (-132 °F) (melting); -91 °C (-132 °F) (freezing)
<b>Initial Boiling Point/Range</b>	98 °C (208 °F)
<b>Flash Point</b>	-4 °C (25 °F) (closed cup)
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/Lower Flammability or Explosive Limit</b>	7% (upper); 1% (lower)
<b>Vapour Pressure</b>	45.7 mm Hg at 25 °C
<b>Vapour Density (air = 1)</b>	3.52
<b>Relative Density (water = 1)</b>	0.864 at 20 °C
<b>Solubility</b>	Practically insoluble (less than 0.1%) in water; Highly soluble in common organic solvents.
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	203.85 °C (398.93 °F)
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	0.598 mm <sup>2</sup> /s at 20 °C (kinematic); 0.409 mPa.s at 20 °C (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid
<b>Molecular Formula</b>	C <sub>7</sub> H <sub>16</sub>
<b>Molecular Weight</b>	100.23
<b>Critical Temperature</b>	267 °C (513 °F)

## SECTION 10. ----- STABILITY AND REACTIVITY -----

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

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

**Incompatible Materials**

Increased risk of fire and explosion on contact with: strong oxidizing agents (e.g. perchloric acid).

**Hazardous Decomposition Products**

Very toxic carbon monoxide, carbon dioxide.

**SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**

**Likely Routes of Exposure**

Inhalation; skin contact; eye contact.

**Acute Toxicity**

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
n-Heptane		> 5000 mg/kg (rat)	

LC50: No information was located.

LD50 (dermal): No information was located.

**Skin Corrosion/Irritation**

May cause moderate or severe irritation based on information for closely related materials. Symptoms include pain, redness, and swelling.

**Serious Eye Damage/Irritation**

May cause very mild irritation based on information for closely related chemicals. Vapours may cause irritation to the eyes.

**STOT (Specific Target Organ Toxicity) - Single**

**Exposure Inhalation**

At high concentrations depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Nose and throat irritation.

**Skin Absorption**

Harmful effects are not expected to occur by skin absorption.

**Ingestion**

If large amounts are swallowed can cause effects as described for inhalation. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

**Aspiration Hazard**

May cause lung damage if aspirated based on physical properties (e.g. kinematic viscosity) and chemical family (hydrocarbon).

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

No adverse effect has been observed in chronic toxicity tests.

**Respiratory and/or Skin Sensitization**

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

**Carcinogenicity**

Not known to cause cancer.

**Reproductive Toxicity**

**Development of**

**Offspring**

Not known to harm the unborn child. No information was located.

**Sexual Function and Fertility**

Not known to cause effects on sexual function or fertility. No information was located.

**Effects on or via Lactation**

No information was located.

**Germ Cell Mutagenicity**

Not known to be a mutagen.

**Interactive Effects**

No information was located.

**SECTION 12. ----- ECOLOGICAL INFORMATION -----**

**Ecotoxicity**

Very toxic, with long lasting effects to aquatic life.

**Acute Aquatic Toxicity**

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
n-Heptane		1.5 mg/L (Daphnia magna (water flea); 48-hour)		

**Persistence and Degradability**

No information was located.

**Bioaccumulative Potential**

This product or its degradation products are expected to bioaccumulate.

**Mobility in Soil**

No information was located.

**Other Adverse Effects**

There is no information available.

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

**Disposal Methods**

Recycle and reuse product, if possible. Dispose of contents and container in accordance with local, regional, national and international regulations. Bury in a licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations. Dispose of or recycle empty containers through an approved waste management facility. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1206	Heptanes	3	II
US DOT	1206	Heptanes	3	II
IATA (Air)	1206	Heptanes	3	II
IMO (Marine)	1206	Heptanes	3	II (FP -4°Ccc)

**Environmental Hazards** Marine Pollutant (n-Heptane)

**Hazards**

**Special Precautions** Please note: Flashpoint -4°Ccc

**SECTION 15. ----- REGULATORY INFORMATION -----**

**Safety, Health and Environmental Regulations**

**Canada**

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

Listed on the DSL.

**CEPA - National Pollutant Release Inventory (NPRI)**

Part 5.

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

**Additional USA Regulatory Lists**

SARA Title III - Section 311/312: Acute Health Hazard, Fire Hazard.

**SECTION 16. ----- OTHER INFORMATION-----**

**NFPA Rating      Health - 1 Flammability - 3 Instability - 0**

Further information: no limited for paper copy, just for internal uses.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

**Disclaimer**

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**End of SDS**