

Section 1 - Chemical Product and Company Identification

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|-----------------------------------|--|
| Product Name | Hexanes |
| Synonyms | normal-Hexane; Hexyl hydride; n-Hexylhydride; n-Caproylhydride; Hexane, normal |
| Product Use | Hydrocarbon solvent |
| Restriction on Use | None identified |
| Manufacturer/Supplier | CFR Chemicals 38451 Range Road 22 County of Red Deer T4E 2N6 |
| General Assistance | 1 (877) 269-3419 |
| Emergency Telephone | 613-966-6666 (CANUTEC 24 Hour Phone Number) |
| Date of Preparation of SDS | April 1, 2017 |

Section 2 – Hazard Identification

Signal Word Danger

GHS Pictogram(s)



Target Organs Peripheral nervous system, Kidney, Testes.

Hazard Statement:

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| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 + H320 | Causes skin irritation and causes eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure if swallowed. |
| H411 | Toxic to aquatic life with long lasting effects |

Precautionary Statement

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|------|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking |
| P233 | Keep container tightly closed. |
| P240 | Ground/Bond container and receiving equipment. |
| P241 | Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |

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| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/eye protection/face protection. |
| Response | |
| P321 | Specific treatment: See Response Statements on this label. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminate clothing. Rinse skin with water / shower. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | If exposed or concerned: get medical advice / attention |
| P312 | Call a POISON CENTRE or doctor/physician if you feel unwell |
| P331 | DO NOT induce vomiting. |
| P332 + P313 | If skin irritation occurs: Get medical advice/attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam to extinguish |
| P391 | Collect spillage |
| Storage | |
| P403 + P233 | Store in well-ventilated place. Keep contained tightly closed. |
| P403 + P235 | Store in well-ventilated place. Keep cool |
| P405 | Store locked up. |
| Disposal | |
| P501 | Dispose of contents/container to an approved waste disposal unit. |

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| GHS Classification | Flammable liquids (Category 2) |
| | Skin corrosion/irritation (Category 2) |
| | Serious eye damage/eye irritation (Category 2B) |
| | Reproductive toxicity (Category 2) |
| | Specific target organ toxicity - single exposure (Category 3), |
| | Specific target organ toxicity - repeated exposure: Oral (Category 2) |
| | Aspiration hazard (Category 1) |
| | Acute aquatic toxicity (Category 2) |
| | Chronic aquatic toxicity (Category 2) |

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| HMIS Classification | |
| Health Hazard | 2 |
| Chronic Health Hazard | * |
| Flammability | 3 |
| Physical Hazards | 0 |

Potential health effects

- Inhalation** Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory tract irritation.
- Ingestion** May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.
- Skin** May be harmful if absorbed through skin. May cause skin irritation.
- Eyes** May cause eye irritation.

Section 3 – Composition Information on Ingredients

| HAZARDOUS INGREDIENT | Hazardous Ingredient, Synonyms | PERCENT | CAS NUMBER |
|-------------------------|---|---------|------------|
| Hexane | n-hexane, normal-Hexane; Hexyl hydride; n-Hexylhydride; n-Caproylhydride; Hexane, normale | 100% | 110-54-3 |
| Chemical Formula | C ₄ H ₁₄ | | |

Section 4 - First Aid Measures

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| Inhalation | Move victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that vapour is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison centre or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. |
| Eye Contact | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower lids. Check for and remove contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| Skin Contact | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | Get medical attention immediately. Call a poison control centre or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. |

Most Important Symptoms/Effects

Acute

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| Eye contact | No known significant effects or critical hazards. |
| Inhalation | Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | No known significant effects or critical hazards. |
| Frostbite | Try to warm up the frozen tissues and seek medical attention. |
| Ingestion | Can cause central nervous system (CNS) depression. |

Delayed

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|-------------|-------------------|
| Eye contact | No specific data. |
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| Inhalation | Adverse symptoms may include the following: nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness, reduced fetal weight, increase in fetal deaths, skeletal malformations |
| Skin contact | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations |
| Ingestion | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations |
| Note to Physician | Treat symptomatically. |

Section 5 – Fire-Fighting Measures

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| Flash Point (°C) | -26°C |
| Flash Point Method | PMCC |
| Auto Ignition Temperature | 234°C |
| Conditions of Flammability | Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| Extinguishing Media | Use water spray (fog), alcohol-resistant foam, dry chemical or carbon dioxide |
| Unsuitable Extinguishing Media | Do not use water jet. |
| Unusual Fire/Explosion Hazard | No data available. |
| Hazardous Combustion Products | Carbon oxides |
| Special Protective Equipment and Precautions for Firefighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode. |

Section 6 – Accidental Release Measures

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| Personal precautions | Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. |
| Methods and materials for | |

containment and cleaning up Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7 – Handling and Storage

Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

Conditions for safe storage Keep container tightly closed in a dry and well-ventilated place.

Incompatible Conditions Heat, flames and sparks.

Incompatible Materials Oxidizing materials.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name

n-hexane

Exposure Limits

Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)

TWA: 50ppm

ACGIH TLV (USA, 4/2014). Absorbed through skin.

TWA: 50ppm 8 Hours

OSHA PEL (USA, 2/2013)

TWA: 500 ppm 8 hours

TWA: 1800 mg/m³ 8 Hours

Personal protective equipment

Eye/face protection

Chemical safety glasses with side shields to prevent eye contact. As a general rule do not wear contact lenses when handling chemicals.

Skin protection

Wear chemical resistant gloves, impermeable protective clothing and safety shoes.

Respiratory protection

Use NIOSH approved respirators and components.

General hygiene

Considerations

Handle in accordance with good industrial hygiene and safety.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure. Safety shower, eye wash, and fire extinguisher should be present.

Section 9 – Physical and Chemical Properties

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| Physical State | Liquid | Water Solubility | Insoluble |
| Appearance & Odour | Clear, Colourless. Hydrocarbon solvent odour. | Boiling Point | 69°C |
| Vapour Pressure | 132 mmHg (20.0°C) | Boiling Range | Not applicable |
| Odour Threshold | Not available. | Melting Point | <-40°C |
| Evaporation Rate | 6.82 | Freezing Point | <-40°C |
| Vapour Density | 0.66 | Lower Explosive Limit (LEL) | 1.2% |



Safety Data Sheet - GHS

Hexanes

Date of Revision: June 19, 2019

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|----------------------------------|--|--|----------------|
| Specific Gravity | 0.65-0.68 | Upper Explosive Limit (UEL) | 7.7% |
| pH | Not available. | Partition coefficient (n-octonal/water) | 4 |
| Flammability (Solid, Gas) | Extremely flammable in the presence of the following materials or conditions: oxidizing materials.. | | |
| Decomposition Temperature | Not available. | Viscosity | Not available. |

Section 10 – Stability and Reactivity

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|---|---|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | Stable under recommended storage conditions. |
| Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur |
| Conditions to avoid | Heat, flames and sparks. |
| Materials to avoid | Oxidizing materials. |
| Hazardous decomposition products | Hazardous decomposition products formed under fire conditions. - Carbon oxides. Other decomposition products - No data available |

Section 11- Toxicological Information

Information on Likely Routes of Exposure

No data available

Acute toxicity

| Product/Ingredient Name | Result | Species | Dose | Exposure |
|-------------------------|---------------------|---------|------------|----------|
| n-Hexane | LC50 Inhalation gas | Rat | 48000ppm | 4 Hr |
| | LD50 Oral | Rat | 15840mg/kg | - |

Skin corrosion/irritation Irritating to skin

Serious eye damage/eye irritation

Eyes – Rabbit – n-hexane – Mild Irritant – 10mg

Respiratory or skin sensitization

No data available

Mutagenicity

No known significant effects or critical hazards.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant. Suspected of damaging fertility.



Safety Data Sheet - GHS

Hexanes

Date of Revision: June 19, 2019

Teratogenicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

| Name | Category | Route of Exposure | Target Organs |
|----------|------------|-------------------|------------------|
| n-hexane | Category 3 | Not applicable. | Narcotic Effects |

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

| Name | Category | Route of Exposure | Target Organs |
|----------|------------|-------------------|----------------|
| n-hexane | Category 2 | Oral | Not determined |
| | | Inhalation | Not determined |

Aspiration hazard

| Name | Result |
|----------|--------------------------------|
| n-hexane | Aspiration Hazard - Category 1 |

Potential health effects

Inhalation Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

Inhalation Adverse symptoms may include: nausea and vomiting, headache, drowsiness/fatigue, dizziness/vertigo and unconsciousness

Ingestion Adverse symptoms may include: nausea and vomiting

Skin Adverse symptoms may include: irritation, redness

Eyes Adverse symptoms may include: pain or irritation, watering, redness

Synergistic effects No data available

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

| | |
|---|--------------------|
| Potential immediate Health Effects | No data available. |
| Potential Delayed Health Effects | No data available. |

Long Term Exposure

| | |
|---|--------------------|
| Potential immediate Health Effects | No data available. |
| Potential Delayed Health Effects | No data available. |
| Potential Chronic Effects | No data available. |

Section 12 – Ecological Information

Toxicity

| Product / Ingredient Name | Result | Species | Exposure |
|---------------------------|---------------|----------------------------|----------|
| n-hexane | LC50 2.5mg/L | Fish – Pimephales promelas | 96 Hr |
| | EC50 3878mg/L | Daphnia – Daphnia magna | 48 Hr |

Persistence and degradability

Biodegradability No data available

Bioaccumulative potential

| Product/Ingredient Name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| n-hexane | 4 | 502 | High |

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|--------------------------------|---|
| Mobility in soil | No data available |
| PBT and vPvB assessment | No data available |
| Other adverse effects | No known significant effects or critical hazards. |

Section 13 – Disposal Considerations

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| Product | This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| Contaminated packaging | Dispose of as unused product. |

Section 14 - Transportation Information

CANADA Transportation of Dangerous Goods (TDG)

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|-------------------------|--------------------------|
| Shipping Name | UN1208, Hexane, 3. PG II |
| Class | 3 |
| UN Number | UN1208 |
| Packaging Group: | II |
| Label | |



| | |
|--|-------------------------|
| Environmental hazards | Not a marine pollutant. |
| Transportation in bulk, if applicable | No data available |
| Special Precautions | No data available |

Section 15 – Regulatory Information

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act)

All components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

TSCA Inventory (8b)

All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

Section 16 – Other Information

REVISION SUMMARY:

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|---------------------|---------------|
| Date of Preparation | April 1, 2017 |
| Date of Revision | June 19, 2019 |



Safety Data Sheet - GHS

Hexanes

Date of Revision: June 19, 2019

SDS Prepared by: CFR Lab Manager

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