Custom Chemical Solutions

Material Safety Data Sheet

1. Identification of Substance/Preparation and Company/Undertaking:
Name of Product *Hexanes*

NFPA Rating: Health: 1; Flammability: 3; Instability: 0

Name of Manufacturer: **CFS Chemicals**
201 Wilkinson Rd
Brampton,
ONTARIO L6T 4M4
1 (866) 669-7608

National Response in Canada: CANUTEC--1(613)996-6666
24 Hour Emergency Response in US: CHEMTREC--1(800)424-9300

2. Composition and Information on Ingredients:

Hazardous Ingredient: Hexane (contains mixture of isomers) >99%
CAS No.: 110-54-3
LD_{50} OF MATERIAL: 28710 mg/kg (rat, oral)
LC_{50} OF MATERIAL: 48000 ppm/4 H (rat, inhalation)

3. Hazards Identification:

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE CENTRAL AND PERIPHERAL NERVOUS SYSTEMS.

Potential Health Effects:
Inhalation: Inhalation of vapors irritates the respiratory tract. Overexposure may cause lightheadedness, nausea, headache, and blurred vision. Greater exposure may cause muscle weakness, numbness of the extremities, unconsciousness and death.
Eye: Vapors may cause irritation. Splashes may cause redness and pain.
Skin: May cause redness, irritation, with dryness, cracking.
Ingestion: May produce abdominal pain, nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms expected to parallel inhalation.

4. First Aid Measures:
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Contact with skin: Remove any contaminated clothing. Wipe off excess from skin. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
Contact with eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Ingestion: Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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5. Fire-fighting Measures:

Extinguishing Media: Use dry chemical, carbon dioxide, or appropriate foam. Solid streams of water may be ineffective and spread material. Water may be ineffective because it will not cool material below its flash point.
Appropriate: wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear
Avoid: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with oxidizing materials may cause extremely violent combustion.Explodes when mixed @ 28C with dinitrogen tetraoxide. Sensitive to static discharge.
Special protective equipment for firefighters: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool. Vapors can flow along surfaces to distant ignition source and flash back. Vapor explosion hazard exists indoors, outdoors, or in sewers.

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6. Accidental Release Measures:

Personal protection: Refer to Section 8
Environmental precautions: Avoid runoff into storm sewers and ditches which lead to waterways.
Methods for cleaning up: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Provide ventilation. Use only non-sparking tools and equipment. Control runoff and isolate discharged material for proper disposal. Use water spray to cool and disperse vapors and protect personnel

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7. Handling and Storage:

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep away from heat and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

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8. Exposure Controls and Personal Protection:

Personal protection:

Eyes: Wear chemical splash goggles.
Skin**:** Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators**:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.

Environmental precautions: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Airborne Exposure Limits:
N-Hexane [110-54-3]:
-OSHA Permissible Exposure Limit (PEL): 500 ppm (TWA)
-ACGIH Threshold Limit Value (TLV): 50 ppm (TWA), Skin
other isomers of hexane
-ACGIH Threshold Limit Value (TLV): 500 ppm (TWA),1000ppm (STEL)

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9. Physical and Chemical Properties:

State: Liquid
Colour: clear, colorless
Odour: gasoline like

Important health, safety and environmental information:

pH: not available
Boiling Point: 69°C
Flash Point: -22°C
Flammability (solid/gas): yes, Vapors are heavier than air and may travel to a source of ignition and flash back.
Explosive properties: lel : 1.1% uel : 7.5%
Vapour pressure: 124 mm Hg @ 20°C
Relative density: 0.6594
Solubility in water: insoluble
Viscoscity: 0.31cps @ 20°C
Vapour density: 2.97 (air=1)
Evaporation rate: Not available

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10. Stability and Reactivity:

Stability: Stable under normal operating conditions
Conditions to avoid: Ignition sources, excess heat, electrical sparks, confined spaces.
Materials to avoid: Strong oxidizing agents
Hazardous decomposition products: Carbon monoxide, carbon dioxide.

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11. Toxicological Information:

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals: Acute oral toxicity (LD50): 25000 mg/kg [Rat]. (Hexane).
Chronic Effects on Humans:
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [Hexane].
Contains material which may cause damage to the following organs: peripheral nervous system, skin, central nervous system (CNS).
Other Toxic Effects on Humans:
Very hazardous in case of skin contact (irritant), of ingestion, .

Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung corrosive).
Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects based on animal data.
May be tumorigenic based on animal data.
Passes through the placental barrier in animal. (Hexane)
Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Skin: Causes severe irritation, burns, and ulceration.
Eyes: Causes severe irritation and burns. May cause irreversible eye injury.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. Causes severe irritation of the upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Irritation and/or aspiration may lead to chemical pneumonitis and pulmonary edema.
Ingestion: Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, seizures, and possible coma. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

LD_{50} OF MATERIAL: 28710 mg/kg (rat, oral)
LC_{50} OF MATERIAL: 48000 ppm/4 H (rat, inhalation)

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12. Ecological Information:

Ecotoxicity: No Information found
Mobility: When released into the soil, this material is not expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate
Persistance and degradability: When released into the soil, this material may biodegrade to a moderate extent. When released into water, this material may biodegrade to a moderate extent. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.
Bioaccumulative potential: This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate.

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13. Disposal Considerations:

Consult local hazardous or chemical waste disposal agency for regulations.

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14. Transport Information:

TDG (road):
UN Number: UN1208
Class: 3
Proper shipping name: Hexanes
Packing group: II

ICAO/IATA (air):
UN Number UN1208
Class: 3
Proper shipping name: Hexanes
Packing group: II

DOT:

UN Number: UN1208
Class: 3
Proper shipping name: Hexanes
Packing group: II

15. Regulatory Information:

Canada - DSL/NDSL
CAS# 110-54-3 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of B2, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List
CAS# 110-54-3 is listed on the Canadian Ingredient Disclosure List.

US FEDERAL

TSCA
CAS# 110-54-3 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 110-54-3: 5000 lb final RQ; 2270 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 110-54-3: immediate, delayed, fire.
Section 313
This material contains Hexane (contains a mixture of (CAS# 110-54-3, 100%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR
Clean Air Act:
CAS# 110-54-3 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 110-54-3 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

16. Other Information:

N/A

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses or damages of any third party or for lost profits of any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

Date of Revision: January 4, 2013