Material Safety Data Sheet

Hexane
MSDS# 10951

Section 1 - Chemical Product and Company Identification

MSDS Name: Hexane

Synonyms: n-Hexane; Hexyl hydride; Dipropyl; normal-Hexane; Hex.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

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CAS#: 110-54-3
Chemical Name: Hexane (contains a mixture of isomers)
%
100
EINECS#: 203-777-6

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Hazard Symbols: XN F N

Risk Phrases: 11 38 48/20 51/53 62 65 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Dangerous for the environment.

Potential Health Effects

Eye: Causes mild eye irritation.

Skin: Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Causes irritation with burning pain, itching, and redness. Absorbed through the skin.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. May cause central nervous system depression.

Inhalation: Causes respiratory tract irritation. Exposure produces central
nervous system depression. Vapors may cause dizziness or suffocation.

Chronic:

Prolonged or repeated skin contact may cause defatting and dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. Chronic exposure may cause visual disturbances. Laboratory experiments have resulted in mutagenic effects. Peripheral neuropathy symptoms include: muscular weakness, paresthesia, numbing of the hands, feet, legs and arms, unsteadiness, and difficulty in walking and standing. Repeated exposure may cause nervous system abnormalities with muscle weakness and damage, motor incoordination, and sensation disturbances. Chronic exposure produces peripheral neuropathy.

Section 4 - First Aid Measures

Eyes:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:

Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively. For ingestion, the stomach should be intubated, aspirated, and lavaged with a slurry of activated charcoal—protect the airway from aspiration of gastric contents. Monitor arterial blood gases in cases of severe aspiration.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. May accumulate static electrical charges, and may cause ignition of its own vapors. Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.

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.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Use only non-sparking tools and equipment.

Section 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.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
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.

Exposure Limits
CAS# 110-54-3:
United Kingdom, WEL - TWA: 20 ppm TWA; 72 mg/m3 TWA
United Kingdom, WEL - STEL: 60 ppm STEL; 216 mg/m3 STEL
United States OSHA: 500 ppm TWA; 1800 mg/m3 TWA
Belgium - TWA: 50 ppm TWA; 179 mg/m3 TWA
France - VME: 50 ppm VME; 170 mg/m3 VME
Germany: 50 ppm TWA (exposure factor 8); 180 mg/m3 TWA (exposure factor 8)
Japan: 40 ppm OEL; 140 mg/m3 OEL
Malaysia: 50 ppm TWA; 176 mg/m3 TWA
Netherlands: 50 ppm STEL; 180 mg/m3 STEL
Netherlands: 25 ppm MAC; 90 mg/m3 MAC
Russia: 300 mg/m3 TWA (vapor)
Russia: 900 mg/m3 STEL (vapor)
Spain: 20 ppm VLA-ED; 72 mg/m³ VLA-ED

Personal Protective Equipment

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 or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear colorless

Odor: gasoline-like

pH: Not available

Vapor Pressure: 151 mm Hg @ 25 deg C

Viscosity: 0.31 mPas 20 deg C

Boiling Point: 62 - 69 deg C @ 760 mmHg

Freezing/Melting Point: -95 deg C (-139.00 F)

Autoignition Temperature: 225 deg C (437.00 deg F)

Flash Point: -7.6 to -15 deg F

Explosion Limits: Lower: 1.2 vol %

Explosion Limits: Upper: 7.7 vol %

Decomposition Temperature: Not available

Solubility in water: Insoluble

Specific Gravity/Density: 0.678

Molecular Formula: C₆H₁₄

Molecular Weight: 86.18

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat, electrical sparks, confined spaces.

Incompatibilities with Other Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 110-54-3: MN9275000

LD₅₀/LC₅₀:

RTECS: CAS# 110-54-3: Draize test, rabbit, eye: 10 mg

Mild; Inhalation, mouse: LC₅₀ = 150000 mg/m³/2H; Inhalation, rat: LC₅₀ = 48000 ppm/4H; Inhalation, rat: LC₅₀ = 627000 mg/m³/3M; Oral, rat: LD₅₀ = 25 gm/kg.

Carcinogenicity:

Hexane (contains a mixture of isomers) - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other:

See actual entry in RTECS for complete information.
Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

IATA
Shipping Name: HEXANES
Hazard Class: 3
UN Number: 1208
Packing Group: II

IMO
Shipping Name: HEXANES
Hazard Class: 3
UN Number: 1208
Packing Group: II

RID/ADR
Shipping Name: HEXANES
Hazard Class: 3
UN Number: 1208
Packing Group: II

USA RQ: CAS# 110-54-3: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN F N

Risk Phrases:

R 11  Highly flammable.
R 38  Irritating to skin.
R 48/20  Harmful : danger of serious damage to health by prolonged exposure through inhalation.
R 51/53  Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 62  Possible risk of impaired fertility.
R 65  Harmful: may cause lung damage if swallowed.
R 67  Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 9  Keep container in a well-ventilated place.
S 16  Keep away from sources of ignition - No smoking.
S 29  Do not empty into drains.
S 33  Take precautionary measures against static discharges.
S 36/37  Wear suitable protective clothing and gloves.
S 61  Avoid release to the environment. Refer to special instructions/safety data sheets.
S 62  If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 110-54-3: 1
Canada
CAS# 110-54-3 is listed on Canada's DSL List
US Federal
TSCA
CAS# 110-54-3 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date:
6/03/1999
Revision #13 Date
5/02/2007

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 or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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