

MATERIAL SAFETY DATA SHEET

KOEHLER INSTRUMENT COMPANY, INC.

ISSUE 3, DATE: February 2008

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:
N-4, Name: Hexane, Synonyms: n-Hexane, Hexyl hydride, Dipropyl, normal-Hexane, Hex

INTENDED USE / APPLICATION:
High Quality Viscosity Calibration Standard

NOTE:
THIS PRODUCT SHOULD NOT BE USED FOR OTHER PURPOSE

EXPERT ADVICE

SUPPLIER: KOEHLER INSTRUMENT COMPANY, INC.

1595 Syracuse Ave
Bohemia, NY 11716
Tel. (631) 589-3800
Fax. (631) 589-3815

HEALTH AND SAFETY EMERGENCY PHONE NUMBER
(631) 589-3800

2. COMPOSITION / INFORMATION OR INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH

Chemical Names:
Hexane, CAS No. 110-54-3, EINECS 203-777-6
Hazard Symbols: XN F N
Risk Phrases: 11 38 48/20 51/53 62 65 67

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. Causes redness and pain. May cause blurred vision, tearing, and conjunctivitis.

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

Ingestion: Aspiration hazard. 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 effects. Aspiration can cause asphyxia, brain damage, and cardiac arrest.

Inhalation: Causes respiratory tract irritation. Exposure produces central nervous system depression. Aspiration may cause respiratory swelling and pneumonitis. Inhalation of high concentrations may cause narcotic effects. Vapors may cause dizziness or suffocation. Exposure

may cause vertigo, hallucinations, fatigue, muscle weakness, visual disturbances, nervous system disturbances, coughing, chest pains, difficulty in breathing, lung irritation, gastrointestinal disturbances, and edema which may be fatal.

Chronic: Prolonged or repeated exposure may cause adverse dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. May cause fetal effects. Chronic exposure may cause visual disturbances. Laboratory experiments have resulted in mutagenic effects. Peripheral neuropathy symptoms include: muscular weakness, paresthesia, numbness 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.

4. FIRST AID

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.

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 irrigated, aspirated, and lavaged with a slurry of activated charcoal/protect the airway from aspiration or gastric contents. Monitor arterial blood gases in cases of severe aspiration

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. Vapours may form an explosive mixture with air. 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. Extremely flammable liquid and vapour. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. May accumulate static electrical charges, and may cause ignition of its own vapours. Containers may explode if exposed to fire. Vapours are heavier than air and may travel to a source of ignition and flash back. Vapours can spread along the ground and collect in low or confined areas.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. Water may spread fire. If water is the only media available, use in flooding amounts. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

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

Spill/Leak: 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 vapour suppressing foam may be used to reduce vapours. Use only non-sparking tools and equipment

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 vapour), and can be dangerous. Take precautionary measures against static discharges. Avoid contact with 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 vapour 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

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 exhaust-ventilation to keep airborne levels to acceptable levels.

Personal Protective Equipment

Eyes: Wear chemical 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 a respirator's use

9. PHYSICAL AND CHEMICAL

Physical State: Liquid

Appearance: clear colorless

Odor: gasoline-like

Vapor Pressure: 151 mm Hg @ 25 deg C

Viscosity: 0.31 mPas 20 C

Boiling Point: 69 deg C @ 760 mmHg

Freezing/Melting Point: -95 deg C

Autoignition Temperature: 225 deg C (437.00 deg F)

Flash Point: -22 deg C (-7.60 deg F)

The information provided in this Safety Data Sheet is correct to the best of our knowledge. Information and relief at the date of it's publication. The information given is designed as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as warranty or quality specification. The information relates only to the specific materials designated and may not be valid for such material in combination with any other materials or in any process, unless specified in the text.

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Explosion Limits: lower: 1.2 vol %
Explosion Limits: upper: 7.7 vol %
Solubility in water: Insoluble.
Specific Gravity/Density: 0.678
Molecular Formula: C₆H₁₄
Molecular Weight: 86.18

10. STABILITY AND REACTIVITY:

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Ignition sources, excess heat, electrical sparks, incompatibilities with other materials. Strong oxidizing agents, inorganic tetraoxide.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

RTCS#: CAS# 110-54-3; MN9275000
LD50/LC50: CAS# 110-54-3: Draize test; rabbit eye: 10 mg/ml; Inhalation, mouse: LC50 = 150000 mg/m³/24; Inhalation, rat: LC50 = 48000ppm/4h; Inhalation, rat: LC50 = 627000 mg/m³/3M; Oral, rat: LD50 = 25 g/mg.
Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
See RTCS for complete information

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available

13. DISPOSAL RECOMMENDATIONS

Products which are 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 waste regulator for advice. Empty containers must be decontaminated before returning for recycling.

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 Dangerous Goods Code: 3(03B)
UN Number: 1208
USA RC: CAS No. 110-54-3: 5000 lb final RC; 2270 kg final RC.

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 36 Irritating to skin.
R 48/20 Harmful danger of serious damage to health by prolonged exposure through inhalation.
R 62 Possible risk of impaired fertility

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R 51/53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

R 65 Harmful; may cause lung damage if swallowed.

R 67 Vapors 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 28 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.

United Kingdom Occupational Exposure Limits

WEL-TWA: 20 ppm TWA, 72 mg/m³ TWA

WEL-STEL: 60 ppm STEL, 216 mg/m³ STEL

Canada

CAS# 110-54-3 is listed on Canada's DSL List

Exposure Limits

OEI-BELGIUM: TWA 20 ppm 72 mg/m³ TWA

OEI-FRANCE: VME: 50ppm VME; 170 mg/m³ VME

OEI-GERMANY: TWA 50 ppm 80 mg/m³ (exposure factor 8)

OEI-JAPAN: 40 ppm OEI; 140 mg/m³ OEI

OEI-THE NETHERLANDS: 50 ppm STEL; 180 mg/m³ STEL

OEI-THE NETHERLANDS: 25 ppm MAC; 90 mg/m³ MAC

OEI-RUSSIA: 300 mg/m³ TWA (vapor)

OEI-RUSSIA: 900 mg/m³ STEL (vapor)

OEI-Spain: 20 ppm VLA-ED; 72 mg/m³ VLA-ED

OEI-Malaysia: 30ppm TWA, 176 mg/m³ TWA

United States OSHA: 50ppm TWA, 1800 mg/m³ TWA

US FEDERAL TSCA

CAS# 110-54-3 is listed on the TSCA Inventory.

16. OTHER INFORMATION

The data and advice given only apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for application other than that stated in this information sheet might give rise to risks not mentioned in this sheet.

