

Material Safety Data Sheet

N- Hexane MSDS

Section 1: Chemical Product and Company Identification

Product Name: N-HEXANE
Catalog Codes: 21281, 222282, 25282
CAS#: 110-54-3
TSCA: TSCA 8(b) inventory: N- Hexane
CI#: Not applicable.
Synonym: HEXYL HYDRIDE; NORMAL HEXANE
Chemical Name: N-HEXANE
Chemical Formula: C₆H₁₄
Contact Information: Runa Chemicals Pvt. Ltd.
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
N-HEXANE	110-54-3	100

Section 3: Hazards Identification

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=3 REACTIVITY=0**WHMIS CLASSIFICATION:** B**EC CLASSIFICATION (ASSIGNED):**

F Highly Flammable

Xn Harmful

R 11-48/20

EC Classification may be inconsistent with independently-researched data.

EMERGENCY OVERVIEW:**COLOR:** colorless**PHYSICAL FORM:** liquid**ODOR:** faint odor, gasoline odor**MAJOR HEALTH HAZARDS:** respiratory tract irritation, skin irritation, eye irritation, central nervous system depression**PHYSICAL HAZARDS:** Flammable liquid and vapor. Vapor may cause flash fire.**POTENTIAL HEALTH EFFECTS:****INHALATION:****SHORT TERM EXPOSURE:** irritation, nausea, irregular heartbeat, headache, symptoms of drunkenness, lung congestion, nerve damage, brain damage, convulsions

LONG TERM EXPOSURE: same as effects reported in short term exposure, blurred vision, impotence, paralysis

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: blisters, itching

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: nausea, vomiting, headache, symptoms of drunkenness, brain damage

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: N

Section 4: First Aid Measures

INHALATION:

Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

SKIN CONTACT:

Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

EYE CONTACT:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION:

If person is unconscious, turn head to side. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. Contact local poison control center or physician immediately. Get medical attention.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage and activated charcoal slurry.

Section 5: Fire and Explosion Data

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2

mile). Water may be ineffective.

FLASH POINT: -8 F (-22 C) (CC)

LOWER FLAMMABLE LIMIT: 1.1%

UPPER FLAMMABLE LIMIT: 7.5%

AUTOIGNITION: 437 F (225 C)

FLAMMABILITY CLASS (OSHA): IB

Section 6: Accidental Release Measures

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

Section 7: Handling and Storage

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

Section 8: Exposure Controls/Personal Protection

EXPOSURE LIMITS:

N-HEXANE:

500 ppm (1800 mg/m³) OSHA TWA

50 ppm (180 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

50 ppm ACGIH TWA (skin)

50 ppm (180 mg/m³) NIOSH recommended TWA 10 hour(s)

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

500 ppm

Any supplied-air respirator.

1100 ppm

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

Escape -

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

Section 9: Physical and Chemical Properties

PHYSICAL STATE: liquid

APPEARANCE: clear

COLOR: colorless

ODOR: faint odor, gasoline odor

MOLECULAR WEIGHT: 86.18

MOLECULAR FORMULA: C-H₃-(C-H₂)₄-C-H₃

BOILING POINT: 156 F (69 C)

FREEZING POINT: -139 F (-95 C)

VAPOR PRESSURE: 124 mmHg @ 20 C

VAPOR DENSITY (air=1): 3.0

SPECIFIC GRAVITY (water=1): 0.6603

WATER SOLUBILITY: 0.014% @ 20 C

PH: neutral

VOLATILITY: 100%

ODOR THRESHOLD: 64-244 ppm

EVAPORATION RATE: 15.8 (butyl acetate=1)

VISCOSITY: .32 cP @ 25 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: alcohol, ether, chloroform, acetone, organic solvents

Section 10: Stability and Reactivity Data

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

INCOMPATIBILITIES: oxidizing materials, halogens, combustible materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

Section 11: Toxicological Information

N-HEXANE:

IRRITATION DATA:

10 mg eyes-rabbit mild

TOXICITY DATA:

>3367 ppm inhalation-rat LC50 (Phillips Chemical Co.); >2 gm/kg skin-rabbit LD50 (Phillips Chemical Co.); >5 gm/kg oral-rat LD50 (Phillips Chemical Co.)

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Slightly Toxic: inhalation

Relatively Non-toxic: ingestion

TARGET ORGANS: nervous system
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: kidney disorders, liver disorders, respiratory disorders, skin disorders and allergies
MUTAGENIC DATA: Available.
REPRODUCTIVE EFFECTS DATA: Available.
ADDITIONAL DATA: Alcohol may enhance the toxic effects.

Section 12: Ecological Information

ECOTOXICITY DATA:
FISH TOXICITY: 2500 ug/L 96 hour(s) LC50 (Mortality) Fathead minnow (*Pimephales promelas*)
ALGAL TOXICITY: 75 ug/L 28 hour(s) (Population Growth) Green algae (*Chlamydomonas* sp)
FATE AND TRANSPORT:
BIOCONCENTRATION: 3650 ug/L 11 hour(s) BCF (Residue) Mussel, eastern elliptio (*Elliptio complanata*) 0.43 ug/L

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS; PACKING GROUP; LABEL:
Flammable liquids, n.o.s. (n-Hexane)-UN1993; 3; II; Flammable liquid

Section 15: Other Regulatory Information

U.S. REGULATIONS:
TSCA INVENTORY STATUS: Y
TSCA 12(b) EXPORT NOTIFICATION: Y
HEXANE
CAS NUMBER: 110-54-3
SECTION 4
CERCLA SECTION 103 (40CFR302.4): Y
N-HEXANE: 5000 LBS RQ
SARA SECTION 302 (40CFR355.30): N
SARA SECTION 304 (40CFR355.40): N
SARA SECTION 313 (40CFR372.65): Y
N-HEXANE
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Y
CHRONIC: Y
FIRE: Y
REACTIVE: N
SUDDEN RELEASE: N
OSHA PROCESS SAFETY (29CFR1910.119): N
STATE REGULATIONS:
California Proposition 65: N
EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 203-777-6

EC RISK AND SAFETY PHRASES:

R 11 Highly flammable.

R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

S 2 Keep out of reach of children.

S 9 Keep container in a well-ventilated place.

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 29 Do not empty into drains.

S 51 Use only in well ventilated areas.

CONCENTRATION LIMITS:

C>=5% Xn R 48/20

Section 16: Other Information

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