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## **N-HEXANE- MATERIAL SAFETY DATA SHEET**

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### **24 Hour EMERGENCY CONTACT**

**U.S- CHEMTREC 1-800-424-9300**

**CANADA- CANUTEC 613-996-6666**

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## **1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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### **Matheson Tri-Gas, Inc.**

*The telephone numbers listed below are emergency numbers, please contact your local branch for routine inquiries.*

#### **USA**

959 Route 46 East  
Parsippany, New Jersey  
07054-0624 USA  
**Phone: 973-257-1100**

#### **CANADA**

530 Watson Street  
Whitby, Ontario  
L1N 5R9 Canada  
**Phone: 905-668-3570**

**SUBSTANCE: N-HEXANE**

**SYMBOL:** C<sub>6</sub>H<sub>14</sub>

**TRADE NAMES/SYNONYMS:**

HEXANE; HEXYL HYDRIDE; NORMAL HEXANE; SKELLYSOLVE B; STCC 4908183; UN 1208; CAPROYL HYDRIDE; C<sub>6</sub>H<sub>14</sub>; MAT10950; RTECS MN9275000

**CHEMICAL FAMILY:** hydrocarbons, aliphatic

**CREATION DATE:** Jan 24 1989

**REVISION DATE:** Mar 16 1999

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**2. COMPOSITION, INFORMATION ON INGREDIENTS**

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**COMPONENT:** N-HEXANE

**CAS NUMBER:** 110-54-3

**EC NUMBER (EINECS):** 203-777-6

**EC INDEX NUMBER:** 601-037-00-0

**PERCENTAGE:** 100.0

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**3. HAZARDS IDENTIFICATION**

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**NFPA RATINGS (SCALE 0-4):** HEALTH=2 FIRE=3 REACTIVITY=0

**WHMIS CLASSIFICATION:** B

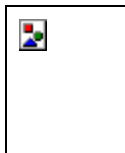
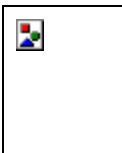
**EC CLASSIFICATION (ASSIGNED):**

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

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**4. FIRST AID MEASURES**

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**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.

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**5. FIRE FIGHTING MEASURES**

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**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

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**6. ACCIDENTAL RELEASE MEASURES**

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**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.

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**7. HANDLING AND STORAGE**

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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.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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### EXPOSURE LIMITS:

#### N-HEXANE:

500 ppm (1800 mg/m<sup>3</sup>) OSHA TWA  
50 ppm (180 mg/m<sup>3</sup>) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)  
50 ppm ACGIH TWA (skin)  
50 ppm (180 mg/m<sup>3</sup>) 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** liquid

**APPEARANCE:** clear

**COLOR:** colorless

**ODOR:** faint odor, gasoline odor

**MOLECULAR WEIGHT:** 86.18

**MOLECULAR FORMULA:** C-H<sub>3</sub>-(C-H<sub>2</sub>)<sub>4</sub>-C-H<sub>3</sub>

**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

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## **10. STABILITY AND REACTIVITY**

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**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.

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## **11. TOXICOLOGICAL INFORMATION**

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**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.

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**12. ECOLOGICAL INFORMATION**

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**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

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**13. DISPOSAL CONSIDERATIONS**

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Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.  
Dispose in accordance with all applicable regulations.

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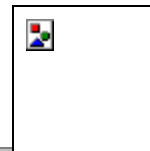
**14. TRANSPORT INFORMATION**

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**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



## 15. REGULATORY INFORMATION

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### 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.
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**CONCENTRATION LIMITS:**

C&gt;=5% Xn R 48/20

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**16. OTHER INFORMATION**[Up to Table of Contents](#)

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