MSDS #03258
ISSUED: 2-15-87
SUPERCEDES: 9-15-86

MATERIAL SAFETY DATA SHEET

A. PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Union Rubber Inc.
REGULAR TELEPHONE NO. (609) 396-9328
EMERGENCY TELEPHONE NO. (713) 656-3424

ADDRESS 232 Allen Street, Trenton, New Jersey 08606 P.O. Box 1040

PRODUCT NAME BESTINE Solvent & Thinner

CHEMICAL NAME Hexane

SHIPPING NAME
DOT: Hexane DOT IDENT. NO. UN1208
IATA: Hexane IATA IDENT. NO. UN1208

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
This product can be defined as: Hexane	110-54-3	100%
This product contains approximately:		
n-Hexane		Less than 50 mass %
Other saturated hydrocarbons		Greater than 50 mass %

See Section E for Health and Hazard information

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity
1	3	0

EXPOSURE LIMITS IN AIR FOR n-HEXANE

50 ppm (180 mg/m3) for an 8-hour workday, 40 hour week (ACGIH TLV)	OSHA PEL 500 ppm

C. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
If overcome by vapor, remove from exposure and call a physician immediately. If breathing is irregular or has stopped, start resuscitation, administer oxygen, if available.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

UNUSUAL FIRE AND EXPLOSION HAZARD
EXTREMELY FLAMMABLE VAPORS CAN EXPLODE

FLASH POINT (MINIMUM)
Less than – 18°C (Less than 0°F)
ASTM D 56, Tag Closed Cup

AUTOIGNITION TEMPERATURE
Approximately 266°C (510°F)
ASTM D 2155

HANDLING PRECAUTIONS

Keep product away from heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 1% Upper Flammable Limit 7.5%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents are suitable for extinguishing fires involving this product.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) – HAZARD IDENTIFICATION

Health	Flammability	Reactivity
1	3	0

E. HEALTH AND HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

High vapor concentrations (greater than approximately 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetics, and may have other central nervous system effects.

NATURE OF HAZARD AND TOXICITY INFORMATION

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis.

Product contacting the eyes may cause eye irritation.

The presence (up to 50%) of n-Hexane (normal-Hexane) in this solvent mixture represents a distinct hazard of producing peripheral polyneuropathy, a progressive disorder of the nervous sysem, which with sufficient high exposure has the potential of becoming irreversible. This disorder has been observed in individuals exposed repeatedly to high vapor concentrations (1000-1500 ppm) of n-Hexane over a period of several months. Exposure to this product should be controlled to keep the maximum level below 100 ppm which will result in n-Hexane exposure of 50 ppm or less, as recommended by the American Conference of Governmental Industrial Hygienists. (ACGIH)

Product has a low order of acute oral and dermal toxicity, but amounts aspirated into the lungs during ingestion may cause mild to severe pulmonary injury and possibly death.

CARCINOGENICITY

This product is NOT listed as a carcinogen or potential carcinogen by The American Conference of Governmental Hygienists (ACGIH), The National Toxicology Program (NTP) or The National Institute for Safety & Health (NIOSH).

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

Boiling Range
65-69°C (149-157°F)

Specific Gravity (H_2O=1)
0.67

Molecular Weight
86

Melting Point
Liquid

pH
Essentially neutral

Pour, Congealing or Melting Point
Less than-18°C (0°F)
Pour Point by ASTM D 97

Viscosity
0.31 cp @ 25° ASTM D 445

Vapor Pressure
Approximately 180 mm Hg @ 25°C
ASTM D 2879

Vapor Density (Air = 1)
Approximately 3.0

Percent Volatile by Volume
100 @ 1 atm and 25°C (77°F)

Evaporation Rate @ 1 ATM and 25 C (77°F)
(n-Butyl Acetate = 1)
16

Solubility in Water @ 1 ATM and 25 C (77°F)
Negligible: less than 0.1%

Product Appearance and Odor
Clear water-white liquid
Mild, bland petroleum odor

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Shut off and eliminate all ignition sources. Keep people away. Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Ventilate confined spaces. Open all windows and doors. Continue to observe precautions for volatile, flammable vapors from absorbed material.

I. PROTECTION AND PRECAUTIONS

VENTILATION

Use only with ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES/ENGINEERING CONTROLS

Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flames or strong oxidants.

PERSONAL HYGIENE

Minimize breathing vapor or mist. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean and dry before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

NJ Health
New Jersey Department of Health

Right to Know
Hazardous Substance Fact Sheet

Common Name: **n-HEXANE**

Synonyms: Hexyl Hydride; normal Hexane

Chemical Name: Hexane

Date: April 2004 Revision: June 2012

CAS Number: 110-54-3

RTK Substance Number: 1340

DOT Number: UN 1208

EMERGENCY RESPONDERS >>>> SEE LAST PAGE

Description and Use

n-Hexane is a colorless liquid with a *Gasoline*-like odor. The commercial product is a mixture of *Hexanes* and small amounts of other chemicals. **n-Hexane** is used in laboratories and as a solvent to remove vegetable oils from crops. It is also found in *Gasoline* and rubber cement.

- **ODOR THRESHOLD = 65 to 248 ppm**
- Odor thresholds vary greatly. Do not rely on odor alone to determine potentially hazardous exposures.

Reasons for Citation

- **n-Hexane** is on the Right to Know Hazardous Substance List because it is cited by OSHA, ACGIH, DOT, NIOSH, DEP, IRIS, NFPA and EPA.
- This chemical is on the Special Health Hazard Substance List.

SEE GLOSSARY ON PAGE 5.

FIRST AID

Eye Contact
- Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids. Remove contact lenses, if worn, while rinsing.

Skin Contact
- Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of (soap and) water.

Inhalation
- Remove the person from exposure.
- Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped.
- Transfer promptly to a medical facility.

EMERGENCY NUMBERS

Poison Control: 1-800-222-1222
CHEMTREC: 1-800-424-9300
NJDEP Hotline: 1-877-927-6337
National Response Center: 1-800-424-8802

Hazard Summary

Hazard Rating	NJDOH	NFPA
HEALTH	2	-
FLAMMABILITY	-	3
REACTIVITY	-	0

FLAMMABLE
POISONOUS GASES ARE PRODUCED IN FIRE
CONTAINERS MAY EXPLODE IN FIRE

Hazard Rating Key: 0=minimal; 1=slight; 2=moderate; 3=serious; 4=severe

- **n-Hexane** can affect you when inhaled and by passing through the skin.
- **n-Hexane** can cause reproductive damage. HANDLE WITH EXTREME CAUTION.
- Contact can irritate and burn the skin and eyes. Prolonged or repeated contact can cause a skin rash, dryness and redness.
- Inhaling **n-Hexane** can irritate the nose, throat and lungs.
- Exposure can cause headache, nausea, vomiting, dizziness, lightheadedness and passing out. Higher levels can cause coma and death.
- **n-Hexane** may damage the nervous system causing numbness, tingling, blurred vision, "pins and needles," and weakness in the hands and feet.
- **n-Hexane** is a FLAMMABLE LIQUID and a DANGEROUS FIRE HAZARD.

Workplace Exposure Limits

OSHA: The legal airborne permissible exposure limit (PEL) is **500 ppm** averaged over an 8-hour workshift.

NIOSH: The recommended airborne exposure limit (REL) is **50 ppm** averaged over a 10-hour workshift.

ACGIH: The threshold limit value (TLV) is **50 ppm** averaged over an 8-hour workshift.

- The above exposure limits are for air levels only. When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.

Determining Your Exposure

- Read the product manufacturer's Material Safety Data Sheet (MSDS) and the label to determine product ingredients and important safety and health information about the product mixture.
- For each individual hazardous ingredient, read the New Jersey Department of Health Hazardous Substance Fact Sheet, available on the RTK website (www.nj.gov/health/eoh/rtkweb) or in your facility's RTK Central File or Hazard Communication Standard file.
- You have a right to this information under the New Jersey Worker and Community Right to Know Act and the Public Employees Occupational Safety and Health (PEOSH) Act if you are a public worker in New Jersey, and under the federal Occupational Safety and Health Act (OSHA) if you are a private worker.
- The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and the PEOSH Hazard Communication Standard (N.J.A.C. 12:100-7) require employers to provide similar information and training to their employees.

This Fact Sheet is a summary of available information regarding the health hazards that may result from exposure. Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

Health Hazard Information

Acute Health Effects
The following acute (short-term) health effects may occur immediately or shortly after exposure to **n-Hexane**:

- Contact can irritate and burn the skin and eyes.
- Inhaling **n-Hexane** can irritate the nose, throat and lungs causing coughing, wheezing and/or shortness of breath.
- Exposure can cause headache, nausea, vomiting, dizziness, lightheadedness and passing out. Higher levels can cause coma and death.

Chronic Health Effects
The following chronic (long-term) health effects can occur at some time after exposure to **n-Hexane** and can last for months or years:

Cancer Hazard
- According to the information presently available to the New Jersey Department of Health, **n-Hexane** has not been tested for its ability to cause cancer in animals.

Reproductive Hazard
- **n-Hexane** may damage the testes (male reproductive glands).

Other Effects
- Prolonged or repeated contact can cause a skin rash, dryness and redness.
- **n-Hexane** may damage the nervous system causing numbness, tingling, blurred vision, "pins and needles," and weakness in the hands and feet.

Medical

Medical Testing
For frequent or potentially high exposure (half the TLV or greater), the following is recommended before beginning work and at regular times after that:

- Exam of the nervous system

Any evaluation should include a careful history of past and present symptoms with an exam. Medical tests that look for damage already done are not a substitute for controlling exposure.

You have a legal right to request copies of your medical testing under the OSHA Access to Employee Exposure and Medical Records Standard (29 CFR 1910.1020).

Workplace Controls and Practices

Very toxic chemicals, or those that are reproductive hazards or sensitizers, require expert advice on control measures if a less toxic chemical cannot be substituted. Control measures include: (1) enclosing chemical processes for severely irritating and corrosive chemicals, (2) using local exhaust ventilation for chemicals that may be harmful with a single exposure, and (3) using general ventilation to control exposures to skin and eye irritants. For further information on workplace controls, consult the NIOSH document on Control Banding at www.cdc.gov/niosh/topics/ctrlbanding/.

The following work practices are also recommended:

- Label process containers.
- Provide employees with hazard information and training.
- Monitor airborne chemical concentrations.
- Use engineering controls if concentrations exceed recommended exposure levels.
- Provide eye wash fountains and emergency showers.
- Wash or shower if skin comes in contact with a hazardous material.
- Always wash at the end of the workshift.
- Change into clean clothing if clothing becomes contaminated.
- Do not take contaminated clothing home.
- Get special training to wash contaminated clothing.
- Do not eat, smoke, or drink in areas where chemicals are being handled, processed or stored.
- Wash hands carefully before eating, smoking, drinking, applying cosmetics or using the toilet.

In addition, the following may be useful or required:

- Before entering a confined space where **n-Hexane** may be present, check to make sure that an explosive concentration does not exist.

Personal Protective Equipment

The OSHA Personal Protective Equipment Standard (29 CFR 1910.132) requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Gloves and Clothing

- Avoid skin contact with **n-Hexane**. Wear personal protective equipment made from material that can not be permeated or degraded by this substance. Safety equipment suppliers and manufacturers can provide recommendations on the most protective glove and clothing material for your operation.
- The recommended glove materials for **n-Hexane** are Nitrile, Polyvinyl Alcohol, Silver Shield®/4H®, Viton, Viton/Butyl, and Barrier®.
- The recommended protective clothing materials for **n-Hexane** are Tychem® F, CPF3, BR, CSM and TK; and Trellchem® HPS and VPS, or the equivalent.
- All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- Wear indirect vent goggles when working with liquids that may splash, spray or mist. A face shield is also required if the liquid is severely irritating or corrosive to the skin and eyes.

Respiratory Protection

Improper use of respirators is dangerous. Respirators should only be used if the employer has implemented a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams, as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134). **Only NIOSH approved respirators should be used.**

- Where the potential exists for exposure over **50 ppm**, use a supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus or an emergency escape air cylinder.
- Exposure to **1,100 ppm** is immediately dangerous to life and health. If the possibility of exposure above **1,100 ppm** exists, use a self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode equipped with an emergency escape air cylinder.

Fire Hazards

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

- **n-Hexane** is a FLAMMABLE LIQUID.
- DO NOT attempt to extinguish fire unless flow can be stopped. Shut off supply or let burn.
- Use dry chemical, CO_2, water spray or alcohol-resistant foam as extinguishing agents.
- Use water in flooding quantities as fog as solid streams of water may spread fire.
- POISONOUS GASES ARE PRODUCED IN FIRE.
- CONTAINERS MAY EXPLODE IN FIRE.
- Use water spray to keep fire-exposed containers cool and to suppress vapors.
- Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source or flash back.
- Flow or agitation may generate electrostatic charges.
- **n-Hexane** may form an ignitable vapor/air mixture in closed tanks or containers.

Spills and Emergencies

If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply.

If **n-Hexane** is spilled or leaked, take the following steps:

- Evacuate personnel and secure and control entrance to the area.
- Eliminate all ignition sources.
- Absorb liquids in dry sand, earth, or a similar material and place into sealed containers for disposal.
- Ventilate area of spill or leak.
- Keep **n-Hexane** out of confined spaces, such as sewers, because of the possibility of an explosion.
- DO NOT wash into sewer.
- It may be necessary to contain and dispose of **n-Hexane** as a HAZARDOUS WASTE. Contact your state Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

Handling and Storage

Prior to working with **n-Hexane** you should be trained on its proper handling and storage.

- **n-Hexane** can react with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, DINITROGEN TETRAOXIDE, CHLORINE, BROMINE and FLUORINE) to cause fires and explosions.
- **n-Hexane** attacks some PLASTICS, RUBBER and COATINGS.
- Store in tightly closed containers in a cool, well-ventilated area away from LIGHT.
- Sources of ignition, such as smoking and open flames, are prohibited where **n-Hexane** is used, handled, or stored.
- Ground and bond containers when transferring **n-Hexane**.
- Use only non-sparking tools and equipment, especially when opening and closing containers of **n-Hexane.**
- Use explosion-proof electrical equipment and fittings.
- **n-Hexane** may accumulate static electricity.

Occupational Health Information Resources

The New Jersey Department of Health offers multiple services in occupational health. These services include providing informational resources, educational materials, public presentations, and industrial hygiene and medical investigations and evaluations.

For more information, please contact:

New Jersey Department of Health
Right to Know
PO Box 368
Trenton, NJ 08625-0368
Phone: 609-984-2202
Fax: 609-984-7407
E-mail: rtk@doh.state.nj.us
Web address: http://www.nj.gov/health/eoh/rtkweb

GLOSSARY

ACGIH is the American Conference of Governmental Industrial Hygienists. They publish guidelines called Threshold Limit Values (TLVs) for exposure to workplace chemicals.

Acute Exposure Guideline Levels (AEGLs) are established by the EPA. They describe the risk to humans resulting from once-in-a lifetime, or rare, exposure to airborne chemicals.

Boiling point is the temperature at which a substance can change its physical state from a liquid to a gas.

A **carcinogen** is a substance that causes cancer.

The **CAS number** is unique, identifying number, assigned by the Chemical Abstracts Service, to a specific chemical.

CFR is the Code of Federal Regulations, which are the regulations of the United States government.

A **combustible** substance is a solid, liquid or gas that will burn.

A **corrosive** substance is a gas, liquid or solid that causes destruction of human skin or severe corrosion of containers.

The **critical temperature** is the temperature above which a gas cannot be liquefied, regardless of the pressure applied.

DEP is the New Jersey Department of Environmental Protection.

DOT is the Department of Transportation, the federal agency that regulates the transportation of chemicals.

EPA is the Environmental Protection Agency, the federal agency responsible for regulating environmental hazards.

ERG is the Emergency Response Guidebook. It is a guide for emergency responders for transportation emergencies involving hazardous substances.

Emergency Response Planning Guideline (ERPG) values provide estimates of concentration ranges where one reasonably might anticipate observing adverse effects.

A **fetus** is an unborn human or animal.

A **flammable** substance is a solid, liquid, vapor or gas that will ignite easily and burn rapidly.

The **flash point** is the temperature at which a liquid or solid gives off vapor that can form a flammable mixture with air.

IARC is the International Agency for Research on Cancer, a scientific group.

Ionization Potential is the amount of energy needed to remove an electron from an atom or molecule. It is measured in electron volts.

IRIS is the Integrated Risk Information System database on human health effects that may result from exposure to various chemicals, maintained by federal EPA.

LEL or **Lower Explosive Limit**, is the lowest concentration of a combustible substance (gas or vapor) in the air capable of continuing an explosion.

mg/m^3 means milligrams of a chemical in a cubic meter of air. It is a measure of concentration (weight/volume).

A **mutagen** is a substance that causes mutations. A **mutation** is a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for Occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

NTP is the National Toxicology Program which tests chemicals and reviews evidence for cancer.

OSHA is the federal Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

PEOSHA is the New Jersey Public Employees Occupational Safety and Health Act, which adopts and enforces health and safety standards in public workplaces.

Permeated is the movement of chemicals through protective materials.

ppm means parts of a substance per million parts of air. It is a measure of concentration by volume in air.

Protective Action Criteria (PAC) are values established by the Department of Energy and are based on AEGLs and ERPGs. They are used for emergency planning of chemical release events.

A **reactive** substance is a solid, liquid or gas that releases energy under certain conditions.

STEL is a Short Term Exposure Limit which is usually a 15-minute exposure that should not be exceeded at any time during a work day.

A **teratogen** is a substance that causes birth defects by damaging the fetus.

UEL or **Upper Explosive Limit** is the highest concentration in air above which there is too much fuel (gas or vapor) to begin a reaction or explosion.

Vapor Density is the ratio of the weight of a given volume of one gas to the weight of another (usually *Air*), at the same temperature and pressure.

The **vapor pressure** is a force exerted by the vapor in equilibrium with the solid or liquid phase of the same substance. The higher the vapor pressure the higher concentration of the substance in air.

NJ Health
New Jersey Department of Health

Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **n-HEXANE**

Synonyms: Hexyl Hydride; normal Hexane
CAS No: 110-54-3
Molecular Formula: $C_{16}H_{14}$
RTK Substance No: 1340
Description: Colorless liquid with a *Gasoline*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health **3 - Fire** **0 - Reactivity** **DOT#:** UN 1208 **ERG Guide #:** 128 **Hazard Class:** 3 (Flammable)	**n-Hexane** is a FLAMMABLE LIQUID. DO NOT attempt to extinguish fire unless flow can be stopped. Shut off supply or let burn. Use dry chemical, CO_2, water spray or alcohol-resistant foam as extinguishing agents. Use water in flooding quantities as fog as solid streams of water may spread fire. POISONOUS GASES ARE PRODUCED IN FIRE. CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool and to suppress vapors. Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source or flash back. Flow or agitation may generate electrostatic charges. **n-Hexane** may form an ignitable vapor/air mixture in closed tanks or containers.	**n-Hexane** can react with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, DINITROGEN TETRAOXIDE, CHLORINE, BROMINE and FLUORINE) to cause fires and explosions. **n-Hexane** attacks some PLASTICS, RUBBER and COATINGS.

SPILL/LEAKS

Isolation Distance:
Spill: 50 meters (150 feet)
Fire: 800 meters (1/2 mile)
Absorb liquids in dry sand, earth, or a similar material and place into sealed containers for disposal.
Ground and bond containers when transferring **n-Hexane**.
Use only non-sparking tools and equipment.
Keep **n-Hexane** out of confined spaces, such as sewers, because of the possibility of an explosion.
DO NOT wash into sewer.
n-Hexane is toxic to aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold:	65 to 248 ppm
Flash Point:	-7°F (-22°C)
LEL:	1.1%
UEL:	7.5%
Auto Ignition Temp:	437°F (225°C)
Vapor Density:	3 (air = 1)
Vapor Pressure:	124 mm Hg at 68°F (20°C)
Specific Gravity:	0.7 (water = 1)
Water Solubility:	Insoluble
Boiling Point:	156°F (69°C)
Freezing Point:	-137°F (-94°C)
Ionization Potential:	10.18 eV
Molecular Weight:	86.2

EXPOSURE LIMITS

OSHA: **500 ppm, 8-hr TWA**
NIOSH: **50 ppm, 10-hr TWA**
ACGIH: **50 ppm, 8-hr TWA**
IDLH: **1,100 ppm**
The Protective Action Criteria values are:
PAC-1 = 400 ppm **PAC-2 = 3,300 ppm**
PAC-3 = 8,600 ppm

PROTECTIVE EQUIPMENT

Gloves: Nitrile, Polyvinyl Alcohol, Silver Shield®/4H®, Viton, Viton/Butyl, and Barrier® (>8-hr breakthrough)

Coveralls: Tychem® F, CPF3, BR, CSM and TK; and Trellchem® HPS and VPS (>8-hr breakthrough)
Use turn out gear or flash protection if ignition/fire is the greatest hazard.

Respirator: >50 ppm or fire - SCBA

HEALTH EFFECTS

Eyes: Irritation and burns
Skin: Irritation and burns
Inhalation: Nose, throat and lung irritation, with coughing, wheezing and shortness of breath
Headache, dizziness, lightheadedness and passing out. Higher levels can cause coma and death.

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses.
Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer promptly to a medical facility.