

N-Hexane 0.0001% to 0.6%, Oxygen 0.0001% to 23.5% in Nitrogen

MSDS Number: NLB 2830

Revision Date: 6/23/2014

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PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

NorLab a division of Norco
898 W. Gowen Rd.
Boise, ID 83705

Contact: Quality Dept.
Phone: 208-336-1643
Fax: 208-433-6160
Web: www.norlabgas.com

Product Name: N-Hexane 0.0001% to 0.6%, Oxygen 0.0001% to 23.5% in Nitrogen
Revision Date: 6/23/2014
Version: 1
MSDS Number: NLB 2830
Common Name: N- Hexane & Oxygen in Nitrogen
CAS Number: Not Available - Gas Mixture
EPA Number: Not Availble
RCRA Number: Not Applicable
Chemical Family: Gas Mixture
Chemical Formula: C6H14 + O2 in N2
Synonyms: Two Gas Mixture, Calibration Gas
Product Use: Calibration of analytital instrumentation

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HAZARDS IDENTIFICATION

Route of Entry: Skin; Eyes; Inhalation;
Target Organs: Respiratory system; Eyes;
Inhalation: High concentrations of vapors may have a narcotic effect. Symptoms may include dizziness, headache and nausea. Mixtures which contain < 19.5% oxygen may act as simple asphyxiants. Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgment, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death.

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.
Skin Contact: Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.
Eye Contact: May cause irritation. Contact with rapidly expanding gas near the point of release may cause frostbite.
Ingestion: Not anticipated. Product is a gas at normal conditions.

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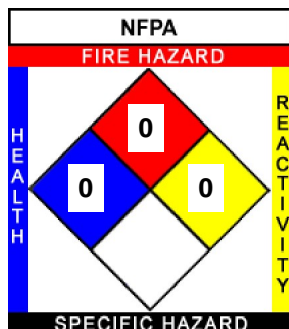
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NFPA:
 HMIS III:

Health = 0, Fire = 0, Reactivity = 0
 H0/F0/PH3



HMIS III	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARDS	3
PERSONAL PROTECTION	

GHS Signal Word:
 WARNING

GHS Hazard Pictograms:

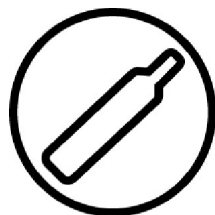


GHS Classifications:
 Physical, Gases Under Pressure, Compressed Gas

GHS Phrases:
 H280 - Contains gas under pressure; may explode if heated

GHS Precautionary Statements:

- P244 - Keep free from grease and oil.
- P260 - Do not breathe gas.
- P403 - Store in a well ventilated place.
- P410+412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
- P411 - Container temperature should not exceed 52°C/122°F.
- P202 - Do not handle until all safety precautions have been read and understood.



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3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
110-54-3	0.0001-0.6%	Hexane
7782-44-7	0.0001-23.5%	Oxygen
7727-37-9	Balance	Nitrogen

4 FIRST AID MEASURES

- Inhalation:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PRODUCT. RESCUE PERSONNEL SHOULD BE EQUIPED WITH SELF-CONTAINED BREATHING APPARATUS. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted (artificial) respiration and supplemental oxygen. Further treatment should be symptomatic and supportive.
- Skin Contact:** None required for gas. For frostbite, immerse skin in lukewarm water. DO NOT USE HOT WATER. Obtain medical attention.
- Eye Contact:** None Required for gas. If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.
- Ingestion:** Not a direct hazard.

5 FIRE FIGHTING MEASURES

- Flammability:** Not Flammable
- Flash Point:** None
- Flash Point Method:** Not Applicable
- Burning Rate:** Not Applicable
- Autoignition Temp:** None
- LEL:** None
- UEL:** None

Fire and Explosion Hazards:
 Nonflammable. Cylinders may rupture violently or vent rapidly from pressure when involved in a fire situation.

Extinguishing Media:
 None required. Use as appropriate for surrounding materials

Fire Fighting Instructions:
 Firefighters should wear respiratory protection (SCBA) and full turnout or Bunker gear. Continue to cool fire-exposed cylinders until well after flames are extinguished.

6 ACCIDENTAL RELEASE MEASURES

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed in section 1, or call your closest Norco/NorLab location.

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HANDLING AND STORAGE

Handling Precautions:

Use only in well-ventilated areas. Valve protection caps must remain in place unless the cylinder is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure (<3000 PSIG) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid from in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

Storage Requirements:

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavy traffic areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125 degrees F (52 degrees C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" sign in the storage or use area.

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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Use local exhaust in combination with general ventilation as necessary to prevent accumulation of high concentrations and maintain air oxygen levels at or above 19.5%.

Personal Protective Equip:

Steel boots; Safety spectacles with unperforated sideshields; Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

N-Hexane

OSHA PEL: 500 PPM TWA

ACGIH PEL: 50 PPM TWA

LC₅₀: 48,000 PPM, Inhalation Rat (4 Hr.)

RTECS#: MN9275000

IDLH: 1100 PPM (10% LEL)

Oxygen

OSHA PEL: Not Available

ACGIH PEL: Not Available

LC₅₀: Not Available

RTECS#: RO206000

IDLH: Not Available

Nitrogen

OSHA PEL: None Established

ACGIH PEL: Simple Asphyxiant

LC₅₀ or LD₅₀: Not Available

RTECS#: QW9700000

IDLH: None Established

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PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless Gas	Odor:	Faint ethereal and sweetish odor.
Physical State:	Gas	Molecular Formula:	C6H14, O2 In N2
Odor Threshold:	65 to 248 ppm N-Hexane	Solubility:	Negligible
Particle Size:	Not Applicable	Softening Point:	Not Applicable
Spec Grav./Density:	Not Available	Percent Volatile:	100%
Viscosity:	Not Applicable		

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STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	None known
Materials to Avoid:	None
Hazardous Decomposition:	Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.
Hazardous Polymerization:	Will not occur.

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TOXICOLOGICAL INFORMATION

In humans, inhalation of 5000 PPM n-hexane for 10 minutes produced dizziness and giddiness while 2000 PPM caused no effects. No evidence of eye or mucous membrane irritation was reported following exposure of unacclimated human subjects to 5000 PPM n-hexane.

Repeated exposure to n-hexane can cause slow-developing bilateral, symmetrical, peripheral and sensorimotor neuropathy. The minimum levels on n-hexane which are neurotoxic to humans have not been established.

Studies indicate that n-hexane can adversely affect the fetus at maternally toxic levels. Toxicity was observed in newborn following experimental 10,000 ppm, 7 hour exposure in female rats. Toxic effects were observed in embryo and fetus following 5000 ppm, 20 hour exposure in female rats. Although progressive testicular toxicity has been induced in rats at subneurotoxic doses of the main toxic metabolite of n-hexane (2, 5-hexanedione), no reports of human reproductive toxicity or sterility have been associated with n-hexane exposure. Genetic effects have been observed in mammalian cell analysis system.

Toxic effects observed to respiratory system, nervous systems in experimental exposures mammalian species. Effects include changes in brain weight, body weight and peripheral nervous system changes.

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ECOLOGICAL INFORMATION

Product does not contain Class I or Class II ozone depleting substances. Not toxic. Will not bioconcentrate.

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DISPOSAL CONSIDERATIONS

Do not attempt to dispose of residual waste or unused quantities in returnable containers. Return in shipping container, properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Norco for proper disposal.

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TRANSPORT INFORMATION

DOT Class: Non-Flammable Gas (2.2) #2.2
UN #: UN1956

Proper Shipping Name US:
UN 1956, Compressed Gas N.O.S., N-Hexane, Nitrogen), 2.2

Proper Shipping Name Canada:
UN1956, Compressed Gas, N.O.S., 2.2



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REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Hexane (110543 0.0001-0.6%) CERCLA, HAP, MASS, OSHAWAC, PA, SARA313, TSCA, TXAIR

*Oxygen (7782447 0.0001-23.5%) MASS, PA, TSCA

*Nitrogen (7727379 n/a%) MASS, PA, TSCA

SARA Title III Notification and Information:

SARA Title III - Hazard Clases
Acute Healt Hazard
Sudden Release of Pressure Hazard

SARA Title III - Supplier Notification:

This product coontains the following toxic chemicals subject to the reporting requierments of seccion 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and for 40 CFR372:

CAS Number	Ingredient Name	Percent by volume
110-54-3	N-Hexane	0.0001% to 0.6%

CERCLA, Section 304 SARA Title III

Releases of N-Hexane in quantities equal to or greater than the reportable quantity (RQ) of 5000 pounds are subject to reporting to the National Response Center.

California Proposition 65:

This product does not contain ingredient(s) known to the State of California to cause cancer of reproductive toxicity.

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
HAP = Hazardous Air Pollutants
MASS = MA Massachusetts Hazardous Substances List
OSHA = OSHA workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals

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TSCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

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OTHER INFORMATION

Disclaimer:

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