Benzene in Air 0.0001% to 0.05%

(M)SDS Number: NLB 2540 Revision Date: 2/17/2014

1 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: Benzene in Air 0.0001% to 0.05%
Revision Date: 2/17/2014
Version: 1
(M)SDS Number: NLB 2540
Common Name: Not Applicable
CAS Number: Not Available - Gas Mixture
EPA Number: Not Availble
Chemical Family: Gas Mixture
Synonyms: Benzene in Air; Benzene in Air Calibration Gas
Product Use: Calibration of analyitical instrumentation

For Transportation Emergency Contact CHEMTREC: 800-424-9300

2 HAZARDS IDENTIFICATION

Route of Entry: Eyes; Inhalation; Skin;

Target Organs: Bone marrow; Blood; Central nervous system; Upper respiratory tract;

Inhalation: Gas mixture contains sufficient oxygen to support life. Long term exposures to benzene at relatively low vapor concentrations can cause blood system disorders. There are reports that exposure to low levels (10 PPM) over an extended period (24 weeks) of benzene vapors can damage the bone marrow and blood systems. This damage can result in the development of serious health disorders. Adverse health effects on the immune system have also been reported. No symptoms were reported for exposure of 25 PPM for 10 minutes. 50 - 150 PPM caused headache, tiredness, nose, and throat irritation. Severe inhalation over exposures may be fatal, due to asphyxiation.

Benzene is a confirmed human carcinogen which can produce Hodgkin's disease, leukemia, and lymphomas by inhalation.

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: None anticipated. 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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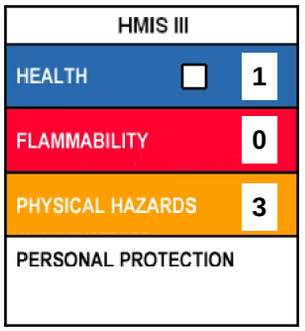
NFPA: Health = 1, Fire = 0, Reactivity = 0
HMIS III: H1/F0/PH3



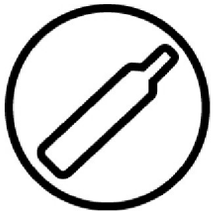
GHS Signal Word:
WARNING

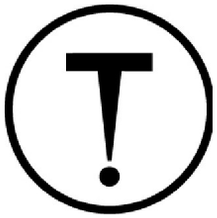
GHS Hazard Pictograms:

GHS Classifications:
Physical, Gases Under Pressure, Compressed Gas
Health, Carcinogenicity, 2
Health, Specific target organ toxicity - Repeated exposure, 2

GHS Phrases:
H280 - Contains gas under pressure; may explode if heated
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

GHS Precautionary Statements:
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P281 - Use personal protective equipment as required.
P371+380+375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P403+233 - Store in a well ventilated place. Keep container tightly closed.
P412 - Do not expose to temperatures exceeding 50 °C/122 °F





3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
71-43-2	0.0001-0.05%	Benzene
N/A	Balance	Air

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: 1.3% for Benzene
UEL: 7.9% for Benzene

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

Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. Evacuate all personnel from affected area. Ventilate enclosed areas. 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.

7 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.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Local exhaust ventilation as necessary to limit exposure below the acceptable exposure limits.

Personal Protective Equip:

Eye/Face Protection:
Safety goggles or glasses as appropriate for the job.

Skin Protection:
Protective gloves of material appropriate for the job.

Respiratory Protection:
Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

Other/General Protection:
Safety shoes.

Benzene
OSHA PEL: 1 PPM TWA; 5 PPM ST
ACGIH PEL: 0.5 PPM TWA; 2.5 PPM STEL
LC_{50} or LD_{50} :10,000 PPM Inhlation/rat 7 Hr.
RTECS #: CY1400000
IDLH 500 PPM

Air
OSHA PEL: Not Applicable
ACGIH PEL: Not Applicable
LC_{50} or LD_{50} : Not Applicable
RTECS #: Not Available

IDLH: Not Available

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless Gas		
Physical State:	Gas	**Odor:**	Faint ethereal and sweetish odor.
Spec Grav./Density:	1 (Air = 1)	**Solubility:**	Very slightly soluble
		Percent Volatile:	100%

10 STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Strong oxidizing materials, strong acids
Materials to Avoid:	Strong Oxidizing Agents. Benzene may attack rubbers and plastics.
Hazardous Decomposition:	Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Long term exposures to benzene at relatively low vapor concentrations can cause blood system disorders. There are reports that exposure to low levels (10 PPM) over an extended period (24 weeks) of benzene vapors can damage the bone marrow and blood systems. This damage can result in the development of serious health disorders. Adverse health effects on the immune system have also been reported. No symptoms were reported for exposure of 25 PPM for 10 minutes. 50 - 150 PPM caused headache, tiredness, nose, and throat irritation. Severe inhalation over exposures may be fatal, due to asphyxiation.

Benzene is a confirmed human carcinogen which can produce Hodgkin's disease, leukemia, and lymphomas by inhalation.

Air is non toxic.

12 ECOLOGICAL INFORMATION

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

13 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.

14 TRANSPORT INFORMATION

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

Proper Shipping Name US:
UN 1956, Compressed Gas N.O.S., (Benzene, Air), 2.2

Proper Shipping Name Canada:

UN1956, Compressed Gas, N.O.S., 2.2

15 REGULATORY INFORMATION

*Benzene (71432 0.0001-0.05%) CERCLA, CSWHS, EPCRAWPC, HAP, HWRCRA, MASS, NJHS, NRC, OSHAHTS, OSHAWAC, PA, PRIPOL, PROP65, SARA313, TOXICPOL, TOXICRCRA, TSCA, TXAIR, TXHWL

All ingredients for this product are listed on the TSCA inventory.

SARA Title III chemicals:
This product contains toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

SARA Title III Hazard Classes:
Chronic Health Hazard
Sudden Release of Pressure Hazard

CERCLA reportable quantity:
Benzene is a CERCLA Hazardous Substance with a Reportable Quantity (RQ) of 10 pounds.

Regulated Ingredients:
Ingredient: Benzene CAS Number: 71-43-2 Percent by Volume: ≤ 0.05%

RCRA hazardous waste no:
Not Applicable

California Prop 65 chemicals:
This product contains an ingredient(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
EPCRAWPC = EPCRA Water Priority Chemicals
HAP = Hazardous Air Pollutants
HWRCRA = RCRA Hazardous Wastes
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
NRC = Nationally Recognized Carcinogens
OSHAHTS = OSHA Hazardous and Toxic Substances
OSHAWAC = OSHA Workplace Air Contaminants

PA = PA Right-To-Know List of Hazardous Substances
PRIPOL = Clean Water Act Priority Pollutants
PROP65 = CA Prop 65
SARA313 = SARA 313 Title III Toxic Chemicals
TOXICPOL = Clean Water Act Toxic Pollutants
TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
TXHWL = TX Hazardous Waste List

16 OTHER INFORMATION

Disclaimer:
Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).