



Emergency Contact: Chemtrec (800) 424-9300
Or Norco (208) 336-1643

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Isobutylene 0.0001% to 0.9% in Air

MATERIAL SAFETY DATA SHEET

Identification

Product Name: Isobutylene 0.0001% to 0.9% in Air
CAS Number: N/A
Chemical Family: Gas Mixture
Chemical Formula: C₄H₈ 0.0001% to 0.9% in Air
Common Names/Synonyms: None
TDG (Canada) Classification: 2.2
WHMIS Classification: A, B1
MSDS Identification Code/Number: 2110
Prepared By: Corporate Production

Revision Date: 01/04/00
Last Review Date: 02/09/07

Composition/Information on Ingredients

Exposure Limits¹:

INGREDIENT	% VOLUME	PEL-OSHA ²	TIV-ACGIH ³	LD ₅₀ OR LC ₅₀ Route/Species
Air FORMULA: Not Applicable CAS #: Not Applicable RTECS #: Not Applicable	99.1 – 100	Not Applicable	Not Applicable	Not Applicable
Isobutylene FORMULA: C ₄ H ₈ CAS #: 115-11-7 RTECS # UDO890000	00.0001% - 0.9%	Simple Asphyxiant	Simple Asphyxiant	LC ₅₀ 620 mg/m ³ /3Hr. (rat)

¹ Refer to individual state of provincial regulations, as applicable, for limits which may be more stringent than those listed here.

² As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

³ As stated in the ACGIH 2006 Threshold Limit Values for Chemical Substances and Physical Agents

Hazards Identification

Emergency Overview:

Isobutylene is a simple hydrocarbon and can cause irritation and central nervous system depression at high concentrations. Use only with adequate ventilation. Contents under pressure. Avoid heat and flames. Protect containers from physical damage. This mixture is non-flammable.

Route of Entry:

Skin Contact Yes	Skin Absorption No	Eye Contact Yes	Inhalation Yes	Ingestion No
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Health Effects:

Exposure Limits No	Irritant Yes	Sensitization No
Teratogen No	Reproductive Hazard No	Mutagen No
Synergistic Effects None Reported		

Hazards Identification Continued

Carcinogenicity: NTP: No IARC: No OSHA: No

Eye Effects:

Irritation may occur. Contact with rapidly expanding gas near the point of release may cause frostbite.

Skin Effects:

Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.

Ingestion Effects:

Ingestion is unlikely.

Inhalation Effects:

Product is relatively nontoxic. Simple hydrocarbons can irritate the eyes, mucous membranes and respiratory system at high concentrations.

Inhalation of high concentrations of Isobutylene may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

NFPA Hazard Codes

Health: 1
Flammability: 0
Reactivity: 0

HMIS Hazard Codes

Health: 1
Flammability: 0
Physical Hazard: 3

Ratings System

0 = No Hazard
1 = Slight Hazard
2 = Moderate Hazard
3 = Serious Hazard
4 = Severe Hazard

Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in *CGA P-19 2004, CGA Recommended Hazard Ratings for Compressed Gases, Second Edition*.

First Aid Measures

Eyes:

Never introduce oil or ointment into the eyes without medical advice! Flush eyes with cool water for 15 minutes. If pain is present, or frostbite is suspected refer the victim to an ophthalmologist for further treatment and follow up.

Skin:

Remove contaminated clothing and wash affected area with soap and water. For frostbite, immerse skin in lukewarm water. **DO NOT USE HOT WATER.** If irritation persists or frostbite is suspected, seek medical attention.

Ingestion:

Not normally required. Product is a gas at room temperature.

Inhalation:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PRODUCT. RESCUE PERSONNEL SHOULD BE EQUIPPED 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.

Fire Fighting Measures

Conditions of Flammability: Not flammable		
Flash Point: None	Method: Not Applicable	Autoignition Temperature: None
LEL (%): None		UEL (%): None
Hazardous combustion products: Carbon Monoxide, Carbon Dioxide		
Sensitivity to mechanical shock: None		
Sensitivity to static discharge: None		

Fire and Explosion Hazards:

The majority of this product constitutes air. Isobutylene is present in concentrations below the Lower Explosive Limits (LEL). Containers may explode when exposed to heat or flames.

Extinguishing Media:

Water spray to keep cylinders cool. Extinguishing agent appropriate for the combustible material.

Fire Fighting Instructions:

Continue to cool heat or flame exposed containers until well after the flames are extinguished.

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 container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest Norco location.

Handling and Storage

Electrical Classification:

Non-hazardous

Use only in well-ventilated areas. Valve protection caps must remain in place unless container 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 reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping 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.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125° F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in, first out" inventory system to prevent full cylinders being stored for excessive period of time.

For additional recommendations, consult Compressed Gas Association's Pamphlets P-1 and G-2.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form 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.

Exposure Controls, Personal Protection

Engineering Controls:

Use local exhaust ventilation as necessary to maintain atmospheric oxygen levels above 19.5% and control air contaminants to below acceptable exposure guidelines.

Eye/Face Protection:

Goggles should be worn.

Exposure Controls, Personal Protection Continued

Skin Protection:

Protective gloves made of suitable material appropriate for the job.

Other/General Protection:

Safety shoes, emergency eyewash station.

Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: Above critical temp.	
Vapor density (Air = 1)	: Not Available	
Evaporation point	: Not Available	
Boiling point	: -194.3	°C
Freezing point	: Not Available	
pH	: Not Available	
Specific gravity at STP	: Not Available	
Oil/water partition coefficient	: Not Available	
Solubility (H ₂ O)	: Negligible	
Odor threshold	: Not Available	
Odor and appearance	: Colorless gas with a slight odor of burning coal.	

Stability and Reactivity

Stability:

Stable

Incompatible Materials:

None

Hazardous Decomposition Products:

Carbon Monoxide

Hazardous Polymerization:

Will not occur.

Toxicological Information

No chronic effects data for Isobutylene is given in the Registry of Toxic Effects of Chemical Substances (RTECS) or Sax, Dangerous Properties of Industrial Materials, 7th ed.

Ecological Information

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

Disposal Considerations

Do not attempt to dispose of waste or unused quantities. Return in the shipping container *properly labeled with any valve outlet plugs or caps secure and valve protection cap in place* to Norco for proper disposal.

Transport Information

PARAMETER	United States DOT	Canada TDG
Proper Shipping Name:	Compressed Gas, N.O.S., (Air, Isobutylene)	Compressed Gas, N.O.S., (Air, Isobutylene)
Hazard Class:	2.2	2.2
Identification Number	1956	1956
Shipping label:	Non-flammable gas	Non-flammable gas

Regulatory Information

SARA Title III Notifications and Information

Isobutylene is listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 10,000 pounds.

SARA Title III-Section 313 Supplier Notification

This product Does not contain ingredients 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:

Acute Health Hazard
Sudden Release of Pressure Hazard

California Proposition 65: This product does not contain ingredient(s) known to the State of California to cause cancer or reproductive toxicity.

Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

Disclaimer of Expressed and Implied Warranties:

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).