

# Precision Gas Products Inc.

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## Isobutylene in Air 0.0001% to 0.9%

# MATERIAL SAFETY DATA SHEET

### Identification

Revision Date 01-01-15

Products Name: ISOBUTYLENE IN AIR 0.0001% TO 0.9%

CAS Number: N/A

Chemical Family: Gas Mixture

Chemical formula: C<sub>4</sub>H<sub>8</sub> in Air

MSDS identification Code/ Number: MSDS 113

### Composition/ Information on Ingredients

Ingredient Name	Concentration Percent by Weight
<b>ISOBUTYLENE</b> CAS Number: 115-11-7	0.0001 to 0.9
<b>AIR</b> CAS Number: 25635-88-5	99.1 to 99.999

### Exposure Limits

Simple Asphyxiant – Maintain oxygen levels above 19.5%

### Hazard Identification

No data given

### First Aid Measures

#### Eyes

Never introduce oil or ointment into the eyes without medical advice! In case of freezing or cryogenic “burns” by rapidly evaporating liquid, do not wash the eyes with hot or even tepid water! Remove victim from the source of contamination. Open eyelids wide to allow liquid to evaporate. If pain is present, refer the victim to an ophthalmologist for further treatment and follow-up. If the victim cannot tolerate light, protect eyes with a light bandage or handkerchief.

#### Skin

Remove contaminated clothing and flush affected area with cold water and soap. *Do not use hot water.* A physician should see the patient promptly if the cryogenic “burn” has resulted in blistering of the skin or deep tissue freezing or if frostbite has occurred. Treat the “burn” in a similar manner as a thermal burn.

#### Ingestion

Keep victim calm and warm. Notify physician and inform of nature of material, the state of the victim and any observed signs or symptoms.

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, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

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### Fire Fighting Measures

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#### Flammable Properties

##### **Flash Point: Gas**

Lower Explosive Limit (%): 1.8 (Isobutylene)

Upper Explosive Limit (%): 9.6 (Isobutylene)

- Fire and Explosion Hazards: Isobutylene is heavier than air and may travel a considerable distance to an ignition source. Isobutylene is a flammable gas! Keep away from open flame and other sources of ignition. Do not allow smoking in storage area or when handling.
- Extinguishing Media: Water, carbon dioxide, dry chemical
- Fire Fighting Instructions: If possible, stop flow of gas mixture. Use water spray to cool surrounding containers. If fire is extinguished and flow of gas is continued, increase ventilation to prevent a buildup of flammable/explosive atmosphere. Extinguish sources of ignition.

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### Accidental Release Measures

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Evacuate all personnel from affected areas. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC location for emergency assistance.

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### Handling and Storage

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- **Handling and Storage Precautions**

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 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 system.

Protect cylinders from physical damage. Store in cool, dry, well – ventilated area of noncombustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). 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 periods of time. For additional recommendations consult Compressed Gas Association Pamphlet P-1. Post “NO SMOKING” signs in the storage area or use area.

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, asphyxiation or toxic exposure.

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### Exposure Controls/Personal Protection

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Engineering Controls: Use local exhaust to prevent accumulation. Use general ventilation to prevent buildup of flammable concentrations. May use hood with forced ventilation when handling small quantities. If product is handled routinely where the potential for leaks exists, all electrical equipment must be rated for use in potentially flammable atmospheres. Consult the National Electrical code for details.

Eye/Face Protection: Safety goggles or glasses.

Skin Protection: Plastic or rubber gloves.

Respiratory Protection: Positive pressure air lines with mask or self-contained breathing apparatus should be available for emergency use. A chemical cartridge respirator with organic vapor cartridges may be used for low concentrations when adequate oxygen is present, however product does not have adequate warning properties.

Other/General Protection: Safety shoes, safety shower, eyewash.

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### Physical & Chemical Properties

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Appearance: A colorless gas.

Odor: Unpleasant odor similar to that of burning coal.

Basic Physical Properties

Solubility (H2O): Insoluble

Present Volatiles: 100

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### Stability & Reactivity

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Stability: Stable

Incompatible Materials: Oxidizers

Hazardous Decomposition Products: Carbon Monoxide

Hazardous Polymerization: Will not occur

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### Toxicological Information

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- Eye Effects: Contact with evaporating liquid may cause frostbite or cryogenic “burns”. Irritation may also occur.
- Skin Effect: Contact with liquefied product may cause frostbite or cryogenic “burns” upon evaporation. Frostbite effects are a change in color of the skin to gray or white, possibly followed by blistering. Skin may become inflamed and painful.
- Acute Oral Effects: Ingestion is unlikely. The effects of ingestion are unknown, however minimal health effects are anticipated. Consult a physician for treatment or contact the local poison control center.
- Acute Inhalation Effects: In moderate concentrations, product may exclude an adequate supply and may cause dizziness, drowsiness and eventual unconsciousness. Product may also act as an anesthetic on the central nervous system, causing a slight anesthetic effect. Symptoms may include dizziness, euphoria and headache in higher concentrations. Asphyxiation due to exclusion of oxygen is possible. Maintain oxygen levels above 19.5% at sea level.

Carcinogenicity – NTP: No

IARC: No

OSHA: No

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### Ecological Information

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No data given

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### Disposal Considerations

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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 Precision Gas Products for proper disposal.

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### Transport Information

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Proper Shipping Name: Compressed Gas, N.O.S., (Air, Isobutylene)

Hazardous Class: 2.2

CT (DOT) Identification Number: UN 1956

CT (DOT) Shipping Label: Nonflammable Gas

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### Regulatory Information

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#### SARA Title III Notifications and Information

**SARA Title III – Hazard Class:** Sudden Release of Pressure Hazard

Fire hazard

Acute Health hazard

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### Other Information

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Hazard Rating	Health:	1 Slight
	Fire:	0 Negligible
	Reactivity :	0 Negligible

MSDS Identification Code/Number: MSDS 113

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### Reference Documentation

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Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

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### Disclaimer of Expressed & Implied Warranties

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