



MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS

PRODUCT NAME: BENZENE (1 PPM – 50 PPM) IN AIR

MSDS NO: 21

Version:3

Date: January, 2009

1. Chemical Product and Company Identification

Gasco Affiliates, LLC
320 Scarlett Blvd.
Oldsmar, FL 34677

TELEPHONE NUMBER: (800) 910-0051 24-HOUR EMERGENCY NUMBER: 1-800-424-9300
FAX NUMBER: (866) 755-8920
E-MAIL: info@gascogas.com

PRODUCT NAME: BENZENE (1 PPM – 50 PPM) IN AIR
CHEMICAL NAME: Benzene in air
COMMON NAMES/ SYNONYMS: None
TDG (Canada) CLASSIFICATION: 2.2
WHIMIS CLASSIFICATION: A, D2A

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Table with 5 columns: INGREDIENT, %VOLUME, PEL-OSHA, TLV-ACGIH, LD50 or LC50 Route/Species. Rows include Benzene (C6H6) and Air (Mixture).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This is a colorless, odorless gas mixture. Benzene is a known human carcinogen and a possible human mutagen. Inhalation of vapors of Benzene can cause central nervous system effects and serious, permanent damage to the blood system (even at relatively low concentrations). Additionally, releases of this product may produce oxygen-deficient atmospheres, which may cause asphyxiation.

ROUTE OF ENTRY:

Table with 5 columns: Skin Contact, Skin Absorption, Eye Contact, Inhalation, Ingestion. Rows show 'Yes/No' for each route and 'HEALTH EFFECTS' for Exposure Limits, Irritant, Sensitization, Reproductive Hazard, and Mutagen.

Carcinogenicity: --NTP: Yes IARC: Yes OSHA: Yes

EYE EFFECTS:

N/A



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### SKIN EFFECTS:

N/A

### INGESTION EFFECTS:

Ingestion unlikely. Gas at room temperature.

### INHALATION EFFECTS:

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.

### NFPA HAZARD CODES

Health: 2  
Flammability: 0  
Reactivity: 0

### HMIS HAZARD CODES

Health: 2  
Flammability: 0  
Reactivity: 0

### RATING SYSTEM

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

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## 4. FIRST AID MEASURES

### EYES:

N/A

### SKIN:

N/A

### INGESTION:

Not required

### INHALATION:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing has stopped administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

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## 5. FIRE-FIGHTING MEASURES

These containers hold gas under pressure, with no liquid phase. If involved in a major fire, they should be sprayed with water to avoid pressure increases, otherwise pressures will rise and ultimately they may distort or burst to release the contents. The gases will not add significantly to the fire, but containers or fragments may be projected considerable distances - thereby hampering fire fighting efforts.

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## 6. ACCIDENTAL RELEASE MEASURES

In terms of weight, these containers hold very little contents, such that any accidental release by puncturing etc. will be of no practical concern.

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### 7. HANDLING AND STORAGE

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Use only in well-ventilated areas. Do not heat cylinder by any means to increase rate of product from the cylinder. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C).

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Use adequate ventilation for extended use of gas.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

PARAMETER:	VALUE:
Physical state	: Gas
Evaporation point	: N/A
pH	: N/A
Odor and appearance	: Colorless gas , odorless

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### 10. STABILITY AND REACTIVITY

Stable under normal conditions. Expected shelf life 24 months.

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### 11. TOXICOLOGICAL INFORMATION

The components of Benzene are known to be cancer causing. Due to the small size of the cylinder, this gas mixture is not expected to be irritating to humans.

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### 12. ECOLOGICAL INFORMATION

No ecological damage caused by this product.

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### 13. DISPOSAL INFORMATION

Do not discharge into any place where its accumulation could be dangerous. Used containers are acceptable for disposal in the normal waste stream as long as the cylinder is empty and valve removed or cylinder wall is punctured; but GASCO encourages the consumer to return cylinders.

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### 14. TRANSPORT INFORMATION

	<u>United States DOT</u>	<u>Canada TDG</u>
PROPER SHIPPING NAME:	Compressed Gas N.O.S. (Benzene in Air)	Compressed Gas N.O.S. (Benzene in Air)
HAZARD CLASS:	2.2	2.2
IDENTIFICATION NUMBER:	UN1956	UN1956
SHIPPING LABEL:	NONFLAMMABLE GAS	NONFLAMMABLE GAS



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### 15. REGULATORY INFORMATION

Benzene is subject to the requirements of CFR 29 1910.1028, the OSHA Benzene Standard. The Action Level for Benzene is 0.5 ppm as an 8-hour, time-weighted average under this regulation. This gas mixture does not contain any Class I or Class II ozone depleting chemicals.

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### 16. OTHER INFORMATION

This MSDS has been prepared in accordance with the Chemicals (Hazard Information and Packaging for Supply (Amendment) Regulation 1996. The information is based on the best knowledge of GASCO, and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for other purposes than it is intended.

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