

Section 1: Product and Company Identification

Absolute Accuracy
4591 S Wayside Dr
Houston, TX 77087
(832) 571-2387

Product Code: 1465

Synonyms: N/A
Recommended Use: CALIBRATION GAS
Usage Restrictions: INDUSTRIAL CALIBRATION GAS ONLY

Section 2: Hazards Identification



Danger

Hazard Classification:

Aspiration Hazard (Category 1)
Carcinogenicity (Category 1.A)
Eye Effects (Category 2.B)
Gases Under Pressure
Germ Cell Mutagenicity (Category 1.B)
Specific target organ toxicity (Repeated Exposure) (Category 1)

Hazard Statements:

Causes damage to organs through prolonged or repeated exposure
Causes eye irritation
Contains gas under pressure; may explode if heated
May be fatal if swallowed and enters airways
May cause cancer
May cause genetic defects

Precautionary Statements

Prevention:

Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/ vapors/spray..
Wear protective gloves, protective clothing, eye protection and face protection.
Obtain special instructions before use.

Response:

Do NOT induce vomiting.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If swallowed: Rinse mouth. Do NOT induce vomiting.

Immediately call a poison center or doctor.
 If exposed or concerned: Get medical advice/attention.

Storage:

Protect from sunlight.
 Store in well-ventilated place.
 Store locked up.

Disposal:

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Benzene	71-43-2	0.5 PPM
Air	Not applicable	balance

	Chemical Substance	Chemical Family	Trade Names
Benzene	BENZENE	Aromatic	BENZOL; CYCLOHEXATRIENE; BENZOLE; PHENE; PYROBENZOL; PYROBENZOLE; CARBON OIL; COAL TAR NAPHTHA; PHENYL HYDRIDE; BENZOLENE; BICARBURET OF HYDROGEN; COAL NAPHTHA; MOTOR BENZOL; ANNULENE; (6)ANNULENE; RCRA U019; STCC 4908110; UN 1114; C6H6
Air	AIR, COMPRESSED	Inorganic gases	AIR; UN 1002 Nitrogen CAS: 7727-37-9 Oxygen CAS: 7782-44-7

Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Benzene	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.	Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately. Do not induce vomiting.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen. For ingestion, consider gastric lavage.
Air	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	If adverse effects occur, remove to uncontaminated area. Get medical attention.	

Section 5: Fire Fighting Measures

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Benzene	Regular dry chemical, carbon dioxide, water, regular foam Large fires: Use regular foam or flood with fine water spray.	Carbon monoxide, carbon dioxide, irritating aldehydes and ketones and other irritating/toxic gases	<ul style="list-style-type: none"> Any air-purifying respirator with a full facepiece and an organic vapor canister. Any self-contained breathing apparatus with a full facepiece. Chemical protective clothing.
Air	Use extinguishing agents appropriate for surrounding fire.		<ul style="list-style-type: none"> No respirator is required under normal conditions of use.

Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
Benzene	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. Dig holding area such as lagoon, pond or pit for containment.
Air			Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
Benzene	Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Cover with absorbent sheets, spill-control pads or pillows. Apply detergents, soaps, alcohols or another surface active agent. Collect with absorbent into suitable container. Absorb with activated carbon. Remove trapped material with suction hoses. Collect spilled material using mechanical equipment.	Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
Air		

Section 7: Handling and Storage

	Handling	Storage
Benzene	Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125F (52C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.	Do not get liquid in eyes, on skin, or clothing. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. If valve is hard to open, discontinue use and contact your supplier.
Air	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	

Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
Benzene	BENZENE: 1 ppm OSHA TWA 5 ppm OSHA STEL 15 minute(s) 0.5 ppm OSHA action level 10 ppm OSHA TWA (applies to industry exempt from benzene standard 1910.1028) 25 ppm OSHA ceiling (applies to industry exempt from benzene standard 1910.1028) 50 ppm OSHA peak 10 minute(s) (applies to industry exempt from benzene standard 1910.1028) 0.5 ppm ACGIH TWA (skin) 2.5 ppm ACGIH STEL (skin) 0.1 ppm NIOSH recommended TWA 10 hour(s) 1 ppm NIOSH recommended STEL
Air	AIR, COMPRESSED: No occupational exposure limits established.

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
Benzene	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any air-purifying respirator with a full facepiece and an organic vapor canister. Any self-contained breathing apparatus with a full facepiece. Chemical protective clothing.
Air	Eye protection not required under normal conditions.	Protective clothing is not required under normal conditions.	No respirator is required under normal conditions of use.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

	Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Benzene	Liquid	Colorless	Colorless	N/A	Liquid	Gasoline-like	N/A
Air	Gas	Clear	Colorless		Gas	Not available	

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Benzene	12 F (-11 C) (CC)	IB	N/A	928 F (498 C)	0.078	0.012
Air						

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
Benzene	176 F (80 C)	43 F (6 C)	75 mmHg @ 20 C	2.8 (Air=1)	0.8765 @ 20 C	0.18% @ 25 C	Not available	4.68 ppm	5.1 (butyl acetate=1)	0.6468 cP @ 20 C
Air	-317 F (-194 C)	Not available	760 mmHg @ -194 C	1	Not applicable	Slightly soluble	Not applicable	Not available	Not applicable	0.01853 cP @ 26.85 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Benzene	78.11	C6-H6	Not available	Not available	0%	1	Soluble: Acetone, alcohol, carbon disulfide, acetic acid, carbon tetrachloride, chloroform, ether, oils
Air			1.29 g/L @ 0 C			Not applicable	Slightly Soluble

Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
Benzene	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	CHROMIC ANHYDRIDE or PERMANGANIC ACID - can explode on contact. CHLORINE - can explode. NITRIC ACID, OZONE, DIOXYGEN DIFLUORIDE, DIOXYGENYL TETRAFLUOROBORATE, LIQUID OXYGEN, PERMANGANIC ACID, PEROXODISULFURIC ACID or PEROXOMONOSULFURIC ACID - may react violently or explosively with risk of fire. DIBORANE - spontaneously explosive reaction occurs on contact with benzene vapor in the air. METAL PERCHLORATES (e.g. silver perchlorate) - if recrystallized from benzene, can explode spontaneously. NITRYL PERCHLORATE - reaction with benzene can give a slight explosion and flash. INTERHALOGENS - benzene ignites on contact with bromine pentafluoride, bromine trifluoride and iodine heptafluoride, and interacts violently with chlorine trifluoride and iodine pentafluoride). CONCENTRATED HYDROGEN PEROXIDE or SODIUM PEROXIDE or POTASSIUM PEROXIDE - spontaneously flammable. URANIUM HEXAFLUORIDE - reacts vigorously.
Air	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	None known

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Benzene	Oxides of carbon	Will not polymerize.
Air	No hazard expected.	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
Benzene	1 ml/kg oral-rat LD50	>9400 ul/kg skin-rabbit LD50	Irritation, ringing in the ears, nausea, vomiting, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, symptoms of drunkenness, disorientation, blurred vision, lung congestion, blood disorders, paralysis, convulsions, coma
Air	Not available	Not available	

	Eye Irritation	Skin Irritation	Sensitization
Benzene	Irritation	Irritation, blisters	Aspiration hazard, Category 1; H304: May be fatal if swallowed and enters airways. Skin irritation, Category 2; H315: Causes skin irritation. Eye irritation, Category 2; H319: Causes serious eye irritation. Germ cell mutagenicity, Category 1B; H340: May cause genetic defects. Carcinogenicity, Category 1A; H350: May cause cancer. Specific Target Organ Toxicity (repeated exposure), Category 1; H372: Causes damage to organs through prolonged or repeated exposure.
Air	No information is available	No information is available	No significant target effects reported.

Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Benzene	OSHA: Carcinogen; NTP: Known Human Carcinogen; IARC: Human Sufficient Evidence, Animal Sufficient Evidence, Group 1; ACGIH: A1 - Confirmed Human Carcinogen; EC: Category 1	Available.	Available.	No data
Air	Not available	Not available	No data	No data

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Benzene	Fish toxicity: Acute LC50 9.2 to 11.7 mg/L Fresh water Rainbow fish; 9200 ug/L 96 hour(s) LC50 (Mortality) Rainbow trout, donaldson trout (Oncorhynchus mykiss) Invertebrate toxicity: 10000 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia magna) Algal toxicity: 41000 ug/L 8 hour(s) EC50 (Growth) Green algae (Selenastrum capricornutum) Phyto toxicity: 25 ug/L 24 day(s) (Residue) Wood frog (Rana sylvatica) Other toxicity: Not available	Not available	4360 ug/L 24 day(s) BCF (Residue) Northern anchovy (Engraulis mordax) 97 ug/L	Not available
Air	Fish toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Benzene	Subject to disposal regulations: U.S. EPA 40 CFR 262.
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	Hazardous Waste Number(s): U019. Hazardous Waste Number(s): D018. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 0.5 mg/L. Dispose in accordance with all applicable regulations.
Air	Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

Shipping Name	Compressed gas, n.o.s. (Air, Benzene)
UN Number	UN1956
Hazard Class	2.2
Hazard Information	Non-Flammable Gas

Individual Component Information

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
B e n z e n e	Benzene	UN1114	3	II	3	5 kg or L	60L	N/A
A i r	Air, compressed	UN1002	2.2	Not available	2.2	Not available	Not available	Not available

Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
B e n z e n e	Benzene	UN1114	3	II
A i r	Air, compressed	UN1002	2.2	Not available

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
B e n z e n e	10 LBS RQ	Not regulated.	Not regulated.
A i r	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
B e n z e n e	Yes	Yes	Yes	No	No
A i r	No	No	No	No	Yes

SARA 372.65

B e n z e n e	Benzene
A i r	Not regulated.

OSHA Process Safety

Benzene	Not regulated.
Air	Not regulated.

State Regulations

CA Proposition 65	
Benzene	WARNING: This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov .
Air	Not regulated.

Canadian Regulations

WHMIS Classification	
Benzene	B2, D2A, D2B
Air	A

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDL)
Benzene	Listed on inventory.	Not listed.	Not determined.
Air	Not listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating	
Benzene	HEALTH=3 FIRE=3 REACTIVITY=0
Air	HEALTH=0 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard