

### Section 1: Product and Company Identification

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

Product Code: 2182

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

### Section 2: Hazards Identification



**Danger**

**Hazard Classification:**

Flammable (Category 1)  
Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated  
Extremely flammable gas

**Precautionary Statements**

**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Response:**

Eliminate all ignition sources if safe to do so.  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

**Storage:**

Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

	CAS #	Concentration
<b>Hydrogen</b>	1333-74-0	50%
<b>Air</b>	Not applicable	balance

	Chemical Substance	Chemical Family	Trade Names
<b>Hydrogen</b>	HYDROGEN	Inorganic gases	HYDROGEN GAS; HYDROGEN COMPRESSED; HYDROGEN (H2); DIHYDROGEN; UN 1049; H2
<b>Air</b>	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
<b>Hydrogen</b>	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. 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.
<b>Air</b>	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
<b>Hydrogen</b>	Carbon dioxide, regular dry chemical Large fires: Flood with fine water spray.	None known	<ul style="list-style-type: none"> <li>▪ Any self-contained breathing apparatus with a full facepiece.</li> <li>▪ Any self-contained breathing apparatus with a full facepiece.</li> </ul>
<b>Air</b>	Use extinguishing agents appropriate for surrounding fire.		<ul style="list-style-type: none"> <li>▪ No respirator is required under normal conditions of use.</li> </ul>

## Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
<b>Hydrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Do not touch spilled material. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition.	Reduce vapors with water spray. Remove sources of ignition.
<b>Air</b>			Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
<b>Hydrogen</b>	Stop leak if possible without personal risk.	None
<b>Air</b>		

## Section 7: Handling and Storage

	Handling	Storage
<b>Hydrogen</b>	Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.
<b>Air</b>	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
<b>Hydrogen</b>	HYDROGEN: ACGIH (simple asphyxiant)
<b>Air</b>	AIR, COMPRESSED: No occupational exposure limits established.

### Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
<b>Hydrogen</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Any self-contained breathing apparatus with a full facepiece.
<b>Air</b>	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
<b>Hydrogen</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless
<b>Air</b>	Gas	Clear	Colorless		Gas	Not available	

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
<b>Hydrogen</b>	Flammable gas (burns at all ambient temperatures)	Not available	Not available	752 F (400 C)	0.75	0.04
<b>Air</b>						

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
<b>Hydrogen</b>	-423 F (-253 C)	-434 F (-259 C)	760 mmHg @ -253 C	0.07 (Air=1)	Not applicable	1.82% @ 20 C	Not applicable	Not available	Not applicable	0.008957 cP @ 26.8 C
<b>Air</b>	-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
<b>Hydrogen</b>	2	H <sub>2</sub>	0.08987 g/L @ 0 C	Not available	Not available	Not applicable	Soluble: Not available
<b>Air</b>			1.29 g/L @ 0 C			Not applicable	Slightly Soluble

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
<b>Hydrogen</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials, metal oxides, combustible materials, halogens, metal salts, halo carbons, nitrogen trifluoride, oxygen difluoride, magnesium and calcium carbonate, sodium, potassium
<b>Air</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	None known

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
<b>Hydrogen</b>	Miscellaneous decomposition products	Will not polymerize.
<b>Air</b>	No hazard expected.	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

	Oral LD50	Dermal LD50	Inhalation
<b>Hydrogen</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, convulsions, unconsciousness, coma
<b>Air</b>	Not available	Not available	

	Eye Irritation	Skin Irritation	Sensitization
<b>Hydrogen</b>	Not irritating	Not irritating	Difficulty breathing
<b>Air</b>	No information is available	No information is available	No significant target effects reported.

### Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
<b>Hydrogen</b>	Not available	Not available	Not available	No data
<b>Air</b>	Not available	Not available	No data	No data

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
<b>Hydrogen</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
<b>Air</b>	Fish toxicity: Not	Not available	Not available	Not available

	available		
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## Section 13: Disposal Considerations

<b>Hydrogen</b>	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
<b>Air</b>	Dispose in accordance with all applicable regulations.

## Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

### DOT Information For This Mixture

<b>Shipping Name</b>	Compressed gas, flammable, n.o.s. (Air, Hydrogen)
<b>UN Number</b>	UN1954
<b>Hazard Class</b>	2.1
<b>Hazard Information</b>	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>H y d r o g e n</b>	Hydrogen, compressed	UN1049	2.1	Not applicable	2.1	Forbidden	150 kg	None
<b>A i r</b>	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>H y d r o g e n</b>	Hydrogen, compressed	UN1049	2.1	Not applicable
<b>A i r</b>	Air, compressed	UN1002	2.2	Not available

## Section 15: Regulatory Information

### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
<b>H y d r o g e n</b>	Not regulated.	Not regulated.	Not regulated.
<b>A i r</b>	Not regulated.	Not regulated.	Not regulated.

### SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
<b>H y d r o g e n</b>	Yes	No	Yes	No	Yes
<b>A i r</b>	No	No	No	No	Yes

**SARA 372.65**

<b>Hydrogen</b>	Not regulated.
<b>Air</b>	Not regulated.

**OSHA Process Safety**

<b>Hydrogen</b>	Not regulated.
<b>Air</b>	Not regulated.

**State Regulations**

	<b>CA Proposition 65</b>
<b>Hydrogen</b>	Not regulated.
<b>Air</b>	Not regulated.

**Canadian Regulations**

	<b>WHMIS Classification</b>
<b>Hydrogen</b>	A, B1.
<b>Air</b>	A

**National Inventory Status**

	<b>US Inventory (TSCA)</b>	<b>TSCA 12b Export Notification</b>	<b>Canada Inventory (DSL/NDSL)</b>
<b>Hydrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Air</b>	Not listed on inventory.	Not listed.	Not determined.

**Section 16: Other Information**

	<b>NFPA Rating</b>
<b>Hydrogen</b>	HEALTH=0 FIRE=4 REACTIVITY=0
<b>Air</b>	HEALTH=0 FIRE=0 REACTIVITY=0

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