Gujarat Alkalies and Chemicals Ltd.
Vadodara

SECTION 1: Product and Company Identification		
Name	**COMPRESSED HYDROGEN GAS**	
Company	M/s Gujarat Alkalies and Chemicals Limited, P.O. Petrochemicals, Dist.: - Vadodara, Gujarat (India), Pin Code: 391346	
Synonyms	Dihydrogen; o-Hydrogen; p-Hydrogen; Molecular hydrogen; H_2	
Emergency Contact Details	Phone no.	09979897101, 09879604102
	E-mail	headmarketing@gacl.co.in ccr@gacl.co.in

SECTION 2: Hazards Identification	
Emergency Overview	
	DANGER: Extremely flammable gas. Contains gas under pressure; may explode if heated. Burns with invisible flame. May form explosive mixtures in Air. May displace oxygen and cause rapid suffocation.
Potential Health Effects	
Inhalation	May displace oxygen and cause rapid suffocation.
Skin	No data available
Eyes	No data available
Ingestion	No data available
Disposal	Ingestion is not considered a potential route of exposure.

SECTION 3: Composition/information on ingredients			
Component	**CAS-No.**	**EC-No.**	**Weight %**
Hydrogen	1333-74-0	215-605-7	> 99 %

SECTION 4: First Aid Measures	
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin	Wash off with soap and plenty of water. Consult a physician.
Eyes	Flush eyes with water as a precaution.
Ingestion	Ingestion is not considered a potential route of exposure.
Most important symptoms/effects	Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Protect from sunlight. Store in a well-ventilated place.
Notes to Physician	Treat symptomatically.

SECTION 5: Fire Fighting Measures			
Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.		
Flash Point	-149.99 °C - closed cup	**Explosion Limits**	
Auto ignition Temperature	566 °C	**Upper**	74.2 % (V)
		Lower	4 % (V)
Hazardous Combustion Products	No specific data.		
Specific Hazards Arising from the Chemical	Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.		

NFPA: Health: 0	**Flammability: 4**	**Reactivity: 0**	**Special hazards: NA**

SECTION 6: Accidental Release Measures

Personal Precautions	Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up	Provide adequate ventilation. Eliminate sources of ignition.

SECTION 7: Handling and Storage

Handling	Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.
Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure Controls/Personal Protection

Exposure Guidelines:

Component	OSHA PEL	ACGIH TWA
Hydrogen	Not established	Not established

Engineering Measures	Purge all primary containment systems with a nonreactive gas, such as nitrogen, before introducing hydrogen. Local exhaust is required. Secondary containment, with appropriate exhaust gas treatment, is strongly encouraged and is required in some jurisdictions.

Personal Protective Equipment

Eye/face Protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards.
Skin and body protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory Protection	Where risk assessment shows air-purifying respirators are appropriate use respirator cartridges as a backup to engine protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

SECTION 9: Physical and Chemical Properties

Appearance	Colorless compressed gas	**Water solubility**	0.00196 g/l at 0 °C
Odour	No data available	**Auto-ignition temperature**	566 °C (1051°F)
pH	No data available	**Viscosity**	No data available
Melting point/freezing point	-259.2 °C (-434.56°F)	**Flammability (solid, gas)**	No data available
Initial boiling point and boiling range	-252.9 °C (-422.97°F)	**Decomposition temperature**	No data available
Vapour pressure	1 mm Hg @ 263ºC	**Relative density**	No data available

Vapour density	0.08	**Oxidizing properties**	No data available

SECTION 10: Stability and Reactivity

Reactive Hazard	No data available
Stability	Stable under recommended storage conditions
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	Oxidizing agents
Hazardous Decomposition Products	No data available
Hazardous Polymerization	No data available
Hazardous Reactions	No data available

SECTION 11: Toxicological Information

Acute toxicity	No data available Hydrogen
Carcinogenicity	Not classified

SECTION 12: Ecological Information

Eco toxicity	No ecological damage caused by this product.
Other	No data available

SECTION 13: Disposal Considerations

Waste treatment methods	Treat process and other exhaust streams appropriately before release to the atmosphere.
Product	Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal facility.
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport Information

UN number	1049
UN proper shipping name	HYDROGEN, COMPRESSED
Transport hazard class	2.1 - Flammable gas
Packaging group	--
Environmental hazards	No.

SECTION 15: Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation.

SECTION 16: Other Information

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.