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<b>Hydrogen ( Compressed Gas )</b>		



F+ : Extremely flammable



Label 2.1 : flammable gas.

### 1- IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

product name	Hydrogen
Chemical formula	H2
company	GASES FOR MEDICAL & INDUSTRIAL GASES CO. – 308-311 – fish pool- south port said industrial zone – port said – EGYPT
Emergency phone numbers	23818102/23818109/23818032 Hot line 19802


### 2- COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation		Substance			
Substance name	Index Nr	EEC No	CAS No	Contents	Classification
Hydrogen	001-001-00-9	215-605-7	1333-74-0	%100	F+;R12

Contains no other components or impurities that will influence the classification of the product.

### 3- HAZARDS IDENTIFICATION

Hazards identification	Compressed gas. Extremely flammable.
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#### 4- FIRSTAID MEASURES

Inhalation	In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
Ingestion	Ingestion is not considered a potential route of exposure.


#### 5- FIRE FIGHTING MEASURES

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Flammable Class	Extremely flammable
Hazardous combustion products	None.
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	If possible, stop flow of product. Move away from the container and cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Special protective equipment for fire fighters	In confined space use self-contained breathing apparatus.

#### 6- ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area  
 Ensure adequate air ventilation.  
 Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.  
 Eliminate ignition sources.

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Environmental precautions  
Clean up methods

Try to stop release.  
Ventilate area.

### 7- HANDLING AND STORAGE


Storage	Keep container below 50°C in a well-ventilated place. Segregate from oxidant gases and other oxidants in store.
Handling	Ensure equipment is adequately earthed. Avoid contact with pure copper, mercury, silver and brass with greater than 70% copper. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Do not allow back feed into the container. Keep away from ignition sources (including static discharges). Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature.

### 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection	Ensure adequate ventilation. Do not smoke while handling product.
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### 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State at 20°C	Compressed gas.	Critical temperature	-240°C	Solubility mg/l water	1.6 mg/l.
Molecular weight	2	Relative density, gas (Air=1)	0.07	Appearance/Color	Colorless
Melting point	-259°C	Relative density, liquid (water=1)	0.07	Odor	None.
Boiling point	-253°C (s)	Vapor Pressure	Not applicable	Auto-ignition temperature [°C]	560
Flammability range	4 to 75	Other data	Burns with a colorless invisible flame.		

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#### 10- STABILITY AND REACTIVITY

Stability and reactivity	Can form explosive mixture with air. May react violently with oxidants.
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#### 11- TOXICOLOGICAL INFORMATION

General	No known toxicological effects from this product.
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#### 12- ECOLOGICAL INFORMATION


General	No known ecological damage caused by this product.
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#### 13- DISPOSAL CONSIDERATIONS

General	Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous
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#### 14- TRANSPORT INFORMATION

UN No	1049
Proper shipping name	Hydrogen, compressed gas
Class/Div	2.1
ADR/RID Hazard Nr	23
Labeling ADR	Label 2.1: Flammable gas
Other transport information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver

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	<p>is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and: - Cylinder valve is closed and not leaking. - Valve outlet cap nut or plug (where provided) is correctly fitted. - Valve protection device (where provided) is correctly fitted. - There is adequate ventilation. - Compliance with applicable regulations.</p>
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#### 15- REGULATORY INFORMATION

Number in Annex I of Dir 67/548	Index No : 001-001-00-9
EC Classification	F+; R12 R5 R6
EC Labelling	
Symbols	F+ : Extremely flammable
Risk phrases	R12 : Extremely flammable.
Safety phrases	S9 : Keep container in a well-ventilated place. S16 : Keep away from sources of ignition - No smoking. S33 : Take precautionary measures against static discharges.

#### 16- OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the flammability hazard. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. This MSDS is for information purposes only and is subject to change without notice.

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