

# Safety data sheet

Complies with Regulation (EC) No. 1907/2006 (REACH) as amended by Regulation (EU) 2015/830

## **HYDROGEN 5.0**

Issue date: 10/14/2021

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SDS reference: EIGA067A

<section-header>SUPPOINT of the substance / mixture and company/undertaking I. Product identifie Tade name Tade</section-header>						
Take name       HYDROGEN         MOSS No.       BGADG7A         Chemical description       CAS number: 133-74-0         WORSE: RADE       CAS number: 124-063-7         Chenical restring on Multing and Orwalding processes:       Cas number: 124-063-7         Constant extending gas for welding processes:       Constant extending processes:         Constant extending processes:       Constant extending processes:         Constant extending processes:       Constant extending processes:         Constant extending processes:       Constant extending processeses:			ce/mixture and company/undertaking			
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Chemical description HYDROGEN CA number: 233-74-0 N'OKE: 1049 Ec number: 235-76-0 N'OKE: 1049 Chemical foreation number Construction Construct	Trade name	HYDROGEN				
CAS number: 1333:74-0 N'O'RE: 1049 EC number: 135:605-7 Registration number Chemical formula H2 1. Relevant identified uses of the substance or mixture and uses advised against Relevant uses identified Industrial and professional. Carry out a risk analysis before use Test or calibration pass. Chemical reaction/synthesis. Laboratory use. Use a stuel. Shielding gas for welding processes. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use in the manufacture of electronic or photovoltaic components. Lasing gases. Use advised against Consumer use <b>1.3.</b> Information regarding the supplier of the safety data sheet Company identification SARL RAYANOX CA Bethioua Willays of Oran, Algeria Tel: 041-79-35-22 Fax: 041-79-35-22 Contact@Praynox.co safrayanox@gmail.com <b>1.4.</b> Emergency call number Emergency call number <b>1.1.</b> Classification of the substance or mixture Classification according to Regulation (EC) No. 1272/2008 [CP] Hazard pictograms (CLP) Signal word (CLP) Hazard pictograms (CLP) Prevention: P120 - Externelly flammable gas. H280 - Containg gas under pressure: may explode if heated. Prevention: P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition SMOKING. <b>2.3.</b> Liabel elements Signal word (CLP) Hazard - Intervention: P377 - Burning gas lask: Do not extinguish if the leak cannot be stopped without Hazard. <b>3.3.</b> Other dangers	MSDS No.					
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Los a fuel: Laboratory use: Lasing gases: Company identification SARL RAYANOX A Bethioua Wilaya of Oran, Algeria Tel: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-23 Contact@rayanox.00 sarlrayanox@gmail.com Tel: 421365550342 SECTION 2: Hazard Identification Tel: 421365550342 SECTION 2: Hazard Identification Tel: 421365550342 SECTION 2: Hazard Identification Tel: 42120 Contact@rayanox.00 sarlray	Relevant uses identified	Industrial and	d professional. Carry out a risk analysis before use			
Chemical reaction/synthesis. Laboratory use. Use a fuel. Shielding gas for welding processes. Lasing gases. Consumer use <b>1.3.</b> Information regarding the supplier of the safety data sheet Company identification SARL RAYANOX A Bethioua Wilaya of Oran, Algeria Tel: 04.1-79-35-22 Fax: 041-79-35-22 Fax: 041-79-32-23 Contact@rayanox.00 safrayanox@gmail.com Tel: +21365550342 <b>SECTION 2: Hazard Identification</b> <b>1.4.</b> <u>Emergency call number</u> <b>1.5.</b> <u>Classification of the substance or mixture</u> <b>Classification according to Regulation (EC) No. 1272/2008 [CL)</b> Physical harard Flammable gases, Category 1 <b>1.6.</b> <u>Classification (EC) No. 1272/2008 [CL)</u> Flavard Jatements (CLP) Flavard Jatements (CLP) Flavard pictograms (CLP) Precutionary statements (CLP		Test or calibr	ation gas.			
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1.1. Information regarding the suplier of the safety data sheet         Company identification       SARL RAYANOX         ZA Bethioua Wilaya of Oran, Algeria         Tel: 041-79-35-22         Fax: 041-79-35-22         Fax: 041-79-35-23         contact@rayanox.co         saffrayanox@gmail.com         1.4. Emergency call number         Tel: +21365550342         SECTION 2: Hazard Identification         1.2 Classification of the substance or mixture         Classification according to Regulation (EC) No. 1272/008 [CLP]         Physical hazards       Flammable gases, Category 1       H220         Gas under pressure:       H220       Supplements         Labeling according to Regulation (EC) No. 1272/2008 [CLP]         Hazard statements (CLP)       H220 - Extremely flammable gas.<	Uses advised against					
Company identification SARL RAYANOX ZA Bethioua Wilaya of Oran, Algeria Tel: 041-79-35-22 Fax: 041-79-35-22 Fax: 041-79-35-23 Contact@rayanox.co sarlrayanox@gmail.com 1.4. Emergency call number Emergency call number Tel: +21365550342 SECTION 2: Hazard Identification Classification of the substance or mixture Classification according to Regulation (EC) No. 1272/2008 (CLP) Physical hazards Flammable gase, Category 1 H220 Gas under pressure: Compressed gas H280 2.2. Label elements CLP) Hazard pictograms (CLP) Hazard pictograms (CLP) Hazard statements (CLP) Hazard statements (CLP) Precautionary statements (CLP) Precautionary statements (CLP) Precautionary statements (CLP) Precautionary statements (CLP) - Prevention: P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of igniti SMOKING. - Intervention: P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard. P381 - In case of leak, eliminate all sources of ignition - Storage : other accounts of the advection account of the stopped without Hazard. P381 - In case of leak, eliminate all sources of ignition - Storage : comparison of the surface.	•	garding the supplier of the s	afety data sheet			
ZA Bethioua Wilaya of Oran, Algeria Te:: 041-79-35-22 Fa:: 041-79-35-22 Fa:: 041-79-35-23 Contact@rayanox.co sarlrayanox@gmail.com         Itemgrency call number       Tel: +21365550342         Emergency call number       Tel: +21365550342         SECTION 2: Hazard Identificatio- Section of the subsance or mixture       H220         Cassification of the subsance or mixture       H220         Cassification according to Regulation (EC) No. 1272/2008 (CLP)       H220         Physical hazards       Flammable gase, Category 1 Gas under pressure: Compressed gas       H220         Cassification according to Regulation (EC) No. 1272/2008 (CLP)       H220         Flammable gase, Category 1 Gas under pressure: Compressed gas       H220         Cassification store (CLP)       : Hazard         Hazard pictograms (CLP)       : Hazard         Hazard statements (CLP)       : Hazard         Precautionary statements (CLP)       - Prevention:         - Storage :       P310 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition P331 - in case of leak, eliminate all sources of ignition P331 - in case of leak, eliminate all sources of ignition P331 - in case of leak, eliminate all sources of ignition P331 - in case of leak, eliminate all						
Tel: 041-79-35-22         Fax: 041-79-35-22         Fax: 041-79-32-23         Contact@rayanox.co         safrayanox@gmail.com         1.1 Emergency call number         Tel: +21365550342         SECTION 2: Hazard Identification         1.1 Classification of the substance or mixture         Classification of the substance or mixture         Classification of the substance or mixture         Physical hazards         Flammable gase, Category 1       H220         Gas under pressure: Compressed gas       H280         2.1 Label elements         Labele dements          H220						
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Lordiact@rayanox.cg sarlrayanox@gmail.com Temegency call number Tel: +2136550342 Emergency call number Tel: +2136550342 ESECTION 2: Hazard Identification of the substance or mixture Classification of the substance or mixture Labeling according to Regulation (EC) No. 1272/2008 [CLP] Hazard pictograms (CLP) Hazard statements (CLP) Precautionary statements (CLP) Precautionary statements (CLP) Prevention:						
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SECTION 2: Hazard Identification         2.1. Classification of the substance or mixture         Classification according to Regulation (EC) No. 1272/2008 [CLP]         Physical hazards       Flammable gases, Category 1         Gas under pressure: Compressed gas       H220         Cassification according to Regulation (EC) No. 1272/2008 [CLP]         Hazard scording to Regulation (EC) No. 1272/2008 [CLP]         Hazard pictograms (CLP)         Hazard statements (CLP)         Signal word (CLP)         Hazard statements (CLP)         Precautionary statements (CLP)         Precautionary statements (CLP)         Precautionary statements (CLP)         Precautionary statements (CLP)         - Prevention:       P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignite SMOKING.         - Intervention:       P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard.         P381 - In case of leak, eliminate all sources of ignition         - Storage :       P403 - Store in a well-ventilated area.	Emergency call number	Tel: +21365	550342			
2.1. Classification of the substance or mixture         Classification according to Regulation (EC) No. 1272/2008 [CLP]         Physical hazards       Flammable gases, Category 1 Gas under pressure: Compressed gas       H220 H280         2.2. Label elements       H280         Labeling according to Regulation (EC) No. 1272/2008 [CLP]       Hazard pictograms (CLP)         Hazard pictograms (CLP)       I Hazard         Signal word (CLP)       : Hazard         Hazard statements (CLP)       : H220 - Extremely flammable gas. H280 - Contains gas under pressure; may explode if heated.         Precautionary statements (CLP)       - Prevention:         Precautionary statements (CLP)       P10 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignitis SMOKING. - Intervention:         Precautionary statements (CLP)       - Intervention:         Pazard.       P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard. P381 - In case of leak, eliminate all sources of ignition - Storage :         P403 - Store in a well-ventilated area.         2.3. Other dangers						
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Gas under pressure: Compressed gas       H280         2.2. Label elements       Labeling according to Regulation (EC) No. 1272/2008 [CLP]         Hazard pictograms (CLP)       Image: Compression of the second secon	_					
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Precautionary statements (CLP) <ul> <li>Prevention:</li> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignit SMOKING.</li> <li>Intervention:</li> <li>P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard.</li> <li>P381 - In case of leak, eliminate all sources of ignition</li> <li>Storage :</li> <li>P403 - Store in a well-ventilated area.</li> </ul>	Signal word (CLP)		: Hazard			
Precautionary statements (CLP) - Prevention: P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignit SMOKING Intervention: P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard. P381 - In case of leak, eliminate all sources of ignition - Storage : P403 - Store in a well-ventilated area. 2.3. Other dangers	Hazard statements (CLP)		: H220 - Extremely flammable gas.			
<ul> <li>Prevention:</li> <li>Prevention:</li> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignit SMOKING.</li> <li>Intervention:</li> <li>P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard.</li> <li>P381 - In case of leak, eliminate all sources of ignition</li> <li>Storage :</li> <li>P403 - Store in a well-ventilated area.</li> </ul>			H280 - Contains gas under pressure; may explode if heated.			
<ul> <li>Prevention:</li> <li>Prevention:</li> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignit SMOKING.</li> <li>Intervention:</li> <li>P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard.</li> <li>P381 - In case of leak, eliminate all sources of ignition</li> <li>Storage :</li> <li>P403 - Store in a well-ventilated area.</li> </ul>						
SMOKING Intervention: P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard. P381 - In case of leak, eliminate all sources of ignition - Storage : P403 - Store in a well-ventilated area. 2.3. Other dangers	Precautionary statements (C	LP)				
<ul> <li>Intervention: P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without Hazard.</li> <li>P381 - In case of leak, eliminate all sources of ignition</li> <li>Storage : P403 - Store in a well-ventilated area.</li> </ul>		– Prevention:	P210 - Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. N			
Hazard. P381 - In case of leak, eliminate all sources of ignition – Storage : P403 - Store in a well-ventilated area. 2.3. Other dangers			SMOKING.			
P381 - In case of leak, eliminate all sources of ignition – Storage : P403 - Store in a well-ventilated area. 2.3. Other dangers		<ul> <li>Intervention:</li> </ul>	P377 - Burning gas leak: Do not extinguish if the leak cannot be stopped without			
- Storage : P403 - Store in a well-ventilated area.			Hazard.			
2.3. Other dangers			P381 - In case of leak, eliminate all sources of ignition			
		– Storage :	P403 - Store in a well-ventilated area.			
	2.3. Other dangers					
. Asphysiant at high concentration.			: Asphyviant at high concentration			
			. Asphysiant at high concentration.			



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These high concentrations are in the flammable zone

# **SECTION 3: Composition/information on ingredients**

3.1. Substance

	NAME	Product identifier	%	Impurity			Classification according to Regulation (EC) No. 1272/2008 [CLP]	
Ŀ	Hydrogen	<u>(CAS No.) 1333-74-0</u> (EC No.) 215-605-7	<u>99,999</u>	N2 ≤4ppm	H2O ≤4ppm	O2 ≤2ppm	CnHm ≤0.5ppm	Ox. Gas 1, H270 Press. Gas (Comp.), H280

Does not contain other components or impurities which could modify the classification of the product.

3.2. <u>Mixtures:</u>Not applicable

### **SECTION 4: First aid**

SECTION 4: First aid	
4.1. Description of first aid	
- Inhalation	Move the victim to an uncontaminated area, putting on a breathing apparatus Individual autonomy (ARI). Keep the victim warm and at rest. Call a doctor. Perform cardiopulmonary resuscitation if the victim stops breathing. Evacuate the victim to a non-contaminated area.
- Skin contact	No adverse effects expected with this product.
- Eye contact	No adverse effects expected with this product.
- Ingestion	Ingestion is not considered a possible mode of exposure
4.2. <u>Most important symptoms and effe</u>	CTS, both acute and delayed May cause asphyxiation at high concentrations. Symptoms may include loss of consciousness or motor skills. The victim may not be aware of the asphyxiation. Refer to section 11.
4.3. Indication of any immediate medica	
	: None).
SECTION 5: Fire-fighting measures	
5.1. Extinguishing media	
- Suitable extinguishing agents	Water spray or cloud
-	Dry powder
-	Carbon dioxide
-	Shutting off the gas source is the preferred method of control.
-	Be aware of the risk of static electricity formation when using CO2 extinguishers. Do not use them in locations where a flammable atmosphere may be present.
- Unsuitable extinguishing agents	Do not use a jet of water to extinguish.
5.2. Special hazards arising from the sub	stance or mixture
Specific risks	Exposure to fire may cause containers to rupture and explode
Hazardous combustion products	Carbon monoxide
5.3. Advice for firefighters	
Specific methods	Use extinguishing media suitable for the surrounding fire. Exposure to fire and heat may cause
	gas containers to rupture. Cool exposed containers with water spray from a protected location. Do not allow watering water used in emergency cases to flow into the gutters. If possible, stop the gas flow.
	Use water spray or cloud to reduce the fumes to the ground if possible Do not extinguish a flaming gas leak unless absolutely necessary. Spontaneous and explosive re- ignition may occur. Turn off other fires
	Continue to water from a protected location until the container remains cool.
Charing protoctive equipment for firefighters	Move containers from fire area if it can be done without risk.
Special protective equipment for firefighters	In confined spaces use a personal self-contained breathing apparatus (SCBA). Protective clothing and self-contained breathing equipment for firefighters.
	Standard EN 137 - Autonomous open circuit compressed air device with a full face mask. Standard EN 469: protective clothing for firefighters. Standard EN 659: Protective gloves For firefighters
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Algeria.	
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SECTION 6: Measures to be taken	in the event of accidental release
6.1. Personal precautions, protective e	equipment and emergency procedures
For non-rescuers	Act according to the local emergency plan
	Try to stop the leak
	Evacuate the area.
	Eliminate sources of ignition
	Ensure adequate air ventilation.
	See section 8 of the SDS for more information on personal protective equipment
For first aiders	Check the concentration of the released product.
	Wear a self-contained breathing apparatus (SCBA) when entering the area unless you have
	verified that it is safe
	See section 5.3 of the SDS for more information
6.2. <u>Precautions for environmental pre</u>	otection
	Try to stop the leak.
6.3. Methods and material for contain	ment and cleaning up
	Ventilate the area
6.4. <u>Reference to other SECTIONS</u>	
	See also sections 8 and 13
<b>SECTION 7: Handling and storage</b>	
7.1. <u>Precautions for safe handling</u>	
afety when using the product	The product must be handled in accordance with good industrial hygiene and safety procedures
	Only persons with appropriate experience and training should handle gases under pressure.
	Consider adding pressure safety valve(s) to the installation.
	You ensure that the entire gas installation has been (or is regularly) checked for the absence of
	leaks, before use
	Do not smoke while handling the product. Use only specified equipment appropriate for this product and its operating pressure and
	temperature. Contact your gas supplier if in doubt.
	Assess the potential risks of explosive atmospheres and the need for anti-explosion equipment
	(ATEX).
	Purge the air from the installation before introducing the gas.
	Take precautionary measures against electrostatic discharge.
	Keep away from all sources of ignition (including electrostatic charges).
	Use only non-sparking tools.
	Consider the use of flame retardants.
	Solvent can build up in pipes. For maintenance, use suitable resistant gloves (specific for DMF o
	acetone), waterproof protective glasses. Do not breathe solvent vapors. Maintain adequate
	ventilation.
	Don't breathe the gas
	Avoid letting the product into the air
afoty when handling the gas container	Ensure equipment is properly grounded
ifety when handling the gas container	Refer to the supplier's instructions for handling the container. Prohibit products from rising into the container
	Protect cylinders from physical damage, do not pull, roll, slide, drop
	To move the bottles even a short distance, use a cart (bottle rolls,
	etc.), designed for transporting bottles
	Leave the tap protection cap in place until the container is again secured either by a wall or
	support or placed in a container or placed in position for use.
	If the user encounters any difficulty opening or closing the cylinder valve, the user should
	discontinue use and contact the supplier
	Never attempt to repair or modify a container valve or its pressure relief devices.
	Damaged faucets should be reported immediately to the supplier
	Keep tap outlets from containers clean and not contaminated, particularly with oil or water.
	If the container has been equipped with one, as soon as it has been disconnected from the
	installation, replace the cap or the tap outlet cap. Close the container tap after each use and when empty, even if it is still connected to the
	equipment. Never attempt to transfer gases from a bottle/container into another container.
	Never use a direct flame or electric heater to increase the pressure in the container.
	Do not remove or damage the labels put by the supplier to identify the contents of the bottle.
	Prevent water from being drawn into the container.
	Open the tap slowly to avoid a sudden build-up of pressure (water hammer).
7.2. Conditions for safe storage, includ	
	<u> </u>

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	Containers should Container valve of Containers must b Containers in stoo Store the container In storage, separa Store containers i ignition. Keep away from of All electrical insta	gulations and requirements for container storage. I not be stored in conditions likely to aggravate corrosi- overs or caps must be in place. We stored in an upright position and secured to prevent k should be periodically checked for general condition er in a well-ventilated area, at a temperature below 50 te flammable gases and other flammable materials in areas not exposed to the risk of fire and away from se combustible materials oxidizing gases and other oxidizing materials. Ilations in storage must be compatible with the potentially explosive atmospheres	: falling. and absence of leaks. °C
7.3. Specific end use(s)	: None).		
SECTION 8: Exposure controls/pe	rsonal protection		
8.1. Control Settings			
DEL (Occupational Exposure Limits)	: Not available.		
DNEL (Derived No Effect Dose)	: Not available		
NEC (Predicted No Effect Concentration(s))	: Not available.		
8.2. Exposure controls			
8.2.1. Appropriate technical controls			
	Maintain appropr	iate exhaust ventilation locally and overall.	
	Product to be han	dled in a closed system.	
	Pressure equipme	nt should be checked regularly for leaks	
	Avoid atmosphere	es enriched in oxygen (>23.5%)	
	Gas detectors sho	uld be used when oxidizing gases are likely to be releas	sed
	Think about work	permits, e.g. for maintenance.	
8.2.2. Personal protective equipment			
	affected by the us identified risks. The	he use of the product must be conducted and docume e of the product in order to choose personal safety equine following recommendations should be considered Protective Equipment that complies with recommender	uipment regarding the
• Eye/face protection	Wear safety glass	es equipped with side protection Individual eye protection - Specifications.	
Skin protection	Standard EN 100 -	manada cyc protection - Specifications.	
-Hand protection	Wear protective g	loves when handling gas cylinders.	
	Standard EN 388-	Protective gloves against mechanical risks.	
- Miscellaneous	-	fire-resistant and anti-static safety clothing.	
		4116 - Materials with limited flame expansion.	
		-5 - protective clothing: Electrostatic properties.	
		s when handling cylinders. 0345: Personal Protective Equipment - safety shoes.	
Respiratory protection	None are necessa		
Thermal risks	No additions to pr	-	
8.2.3. Ambient exposure controls			
	Refer to local regumethods for treat	Ilations for atmospheric emission restrictions. See Sect ing waste gases.	tion 13 for specific
ECTION 9: Physical and chemica	l properties		
nformation on essential physical and chem	· ·		
ppearance	-		
Physical state at 20°C / 101.3kPa	: Gaseous		
Color mell	: Colorless. : Scentless.		
Nfactory threshold		esholds by smell is subjective and inappropriate for wa	rning in the event of
,	overexposure		

pH	: Not applicable to gases and gas mixtures.
Melting point / Freezing point	: -259°C
Boiling point	: -253°C
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L'Air & la Maniere       Issue date: 10/14/2021       SDS reference: EIGA067A	sheet: 4.0	Revision date: 10/14/2021	Version: 6.0
Flash point Evaporation rate		to gases and gas mixtures. to gases and gas mixtures.	
Flammability (solid, gas)	: Extremely flan	5 C	
Explosive limits	: 4 - 77 vol%.		
Vapor pressure [20°C]	: Not applicable		
Vapor pressure [50°C]	: Not applicable		
Vapor density	: Not applicable		
Relative density, liquid (water=1)	: 0.07.		
Relative density, gas (air=1)	: 0.07		
Water solubility	: 1.6 mg/l		
Partition coefficient n-octanol/water (Log Kow)	: Not applicable	to non-organic products.	
Auto-ignition temperature	: 560°C.		
Decomposition temperature	: Not applicable		
Viscosity	: No reliable dat	ta available.	
Explosive properties	: Not applicable		
Oxidizing properties	: Not applicable	·.	
Other information			
Molar mass	2 g/mol		
Critical temperature [°C]	-240°C		
Other data	Burns with an ir	nvisible flame.	
SECTION 10: Stability and reactivity	,		
10.1. <u>Reactivity</u>	NI		
10.2. Chemical stability	No reactivity ha	zard other than the effects described in the sections b	elow

Stable under normal conditions. 10.3. Possibility of hazardous reactions May form explosive mixture with air. May react violently with oxidants. 10.4. Conditions to avoid Keep away from heat/sparks/open flames/hot surfaces. - NO SMOKING. Avoid humidity in installations. 10.5. Incompatible materials Air, Oxidizers. Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper. Do not use alloys containing more than 43% silver. For further information on compatibility, refer to ISO 11114. : No dangerous decomposition products under normal conditions of use and 10.6. Hazardous decomposition products storage

### **SECTION 11: Toxicological information**

#### 11.1. Information on toxicological effects

acute toxicity Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization **Cell mutagenicity** Carcinogenicity Toxic for reproduction: fertility Toxic for reproduction: fetus Specific target organ toxicity — single exposure Specific target organ toxicity - repeated exposure Inhalation hazard

- : No known effects with this product. : No known effects with this product. : No known effects with this product. : No known effects with this product.
  - : No known effects with this product.

: No known effects with this product.

: No known effects with this product.

- : No known effects with this product.
- : No known effects with this product.

: This product is ecologically safe.

: Not applicable to gases and gas mixtures

: This product has no known toxicological effects

#### **SECTION 12: Ecological information**

#### 12.1. Toxicity Assessment EC50 48h - Daphnia magna [mg/l]

EC50 72h - Algae [mg/l] SARL RAYANOX ZA Bethioua Wilaya of Oran, Algeria Tel: 041-79-35-22/ Fax: 041-79-32-23 : No data available.

: No data available.

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# **HYDROGEN 5.0**

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SDS reference: EIGA06/A	
LC50 96 Hours - fish [mg/l] 12.2. <u>Persistence and degradability</u>	: No data available.
Assessment	: This product is ecologically safe.
12.3. <u>Bioaccumulation potential</u> Assessment	: This product is ecologically safe.
12.4. <u>Mobility in the ground</u>	. This produce is conspically safe.
Assessment	This product is ecologically safe
12.5. <u>Results of PBT and VPVB assessments</u>	
Assessment 12.6. Other adverse effects	Not classified as PBT or vPvB.
Other adverse effects	: No known effects with this product.
Effect on the ozone layer	: No effect on the ozone layer.
Global warming potential [CO2=1]	: 6 : May contribute to the groophouse affect when discharged in large guantities
Effect on global warming	: May contribute to the greenhouse effect when discharged in large quantities. Contains greenhouse gas(es)
SECTION 13: Disposal Considerations	
13.1. Waste treatment methods	
	Contact the supplier if instructions are needed.
	Do not vent into areas where there is a risk of forming an explosive mixture with air. The released gas must be burned in a suitable burner equipped with a flame arrester.
	Do not discharge into any location where its accumulation could be hazardous.
	Check that the emission levels imposed by local regulations or operating permits are not
	exceeded.
	For further recommendations on gas disposal methods, refer to the EIGA code of practice Doc 3 "Disposal of gases", downloadable from http://www.eiga.eu.
	Return the uneaten product to the supplier in its original container
List of hazardous waste	16 05 04: Gases in pressure vessels (including halons) containing substances
12.2 Eurther information	Dangerous.
13.2. <u>Further information</u>	The treatment and disposal of waste by third parties must be in accordance with loca
	and/or national legislation.
SECTION 14: Transport information	
14.1. <u>UN number</u>	
UN number	: 1049
14.2. UN proper shipping name	
<u>Transport by road/rail (ADR/RID)</u> Air transport (ICAO-TI / IATA-DGR)	COMPRESSED HYDROGEN Hydrogen, compressed,
Transport by sea (IMDG)	HYDROGEN, COMPRESSED
14.3. Transport hazard class(es)	
Labeling	
-	
	2.1: Flammable gases.
Transport by road/rail (ADR/RID)	
Class	:2
Classification code	: 1F :23
Danger no. Restriction of passage in tunnels	:23 : B/D - Prohibition on crossing tunnels of categories B, C, D and E for transport in
	cisterns. Prohibition on crossing category D and E tunnels.
Transport by sea (IMDG)	
Class or division / Subsidiary risk(s)	: 2.1
14.4. <u>Packing group</u>	· Not applicable
Transport by road/rail (ADR/RID) Air transport (ICAO-TI / IATA-DGR)	: Not applicable : Not applicable
Transport (ICAO-117 IATA-DGR) Transport by sea (IMDG)	: Not applicable : Not applicable
14.5. Environmental hazards	
Transport by road/rail (ADR/RID)	: None).
Air transport (ICAO-TI / IATA-DGR)	: None).
Transport by sea (IMDG)	: None).
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14.6. Special precautions to be taken by	y the user
Packaging instruction(s)	
Transport by road/rail (ADR/RID)	: P200
Air transport (ICAO-TI / IATA-DGR)	
Passenger and cargo aircraft	: Forbidden
Cargo plane only Transport by sea (IMDG)	: 200 : P200
Precautionary measures for transport	Avoid transport in vehicles where the load compartment is not separated from the driver's cab.
	Ensure that the vehicle driver is aware of the potential hazards of the load and the steps to take in the event of an accident or other emergency situation. Before transporting containers:
	- Ensure there is adequate ventilation.
	- Make sure containers are firmly secured
	- Make sure the cylinder valve is closed and not leaking
	- Make sure that the faucet outlet protection cap (if it exists) is correctly in place.
14.7 Transport in bulk in accordance w	- Ensure that the tap protection device (if it exists) is correctly put in place
14.7. Transport in buik in accordance w	ith Annex II of the Marpol Convention and the IBC Code : Not applicable.
SECTION 15: Regulatory informat	ion
	is/legislation specific to the substance or mixture
EU regulations	
Employment restrictions	: None).
Seveso Directive 2012/18/EU (Seveso III)	: List.
National guidelines National regulations:	: Ensure that all national or local regulations are followed.
Chemical Safety Assessment	. Ensure that an hational of local regulations are followed.
	A Chemical Risk Assessment (CSA) does not need to be carried out for this product.
SECTION 16: Other information	
Indications of change	: None).
Abbreviations and acronyms	
	ETA-Estimate of Acute Toxicity
	CLP- Classification Labeling Packaging - Regulation (EC) No 1272/2008 relating to classification, labeling and packaging. REACH - Registration, Evaluation, Authorization and Restriction of Chemicals – Regulation (EC) No 1907/2006 concerning the registration, evaluation and authorization of chemical substances, as well as the restrictions applicable to these substances. EINECS - European Inventory of Existing Commercial Chemical Substances - Inventory
	European marketed chemical substances
	CAS number - numerical identifier assigned by the Chemical Abstract Service (USA)
	PPE - Personal protective equipment
	LC50 - Lethal Concentration - Lethal concentration for 50% of the population tested
	RMM-Risk Management Measures
	PBT - Persistent, Bioaccumulative and Toxic.
	vPvB - very (very) Persistent and very (very) Bioaccumulative.
	STOT - SE: Specific Target Organ Toxicity - Single Exposure; Specific target organ toxicity - Single exposure. CSA - Chemical Safety Assessment
	EN - European Norm - European Standard
	UN - United Nations - United Nations
	ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road IATA - International Air Transport Association - International Air Transport Association



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Training Tips

DISCLAIMER OF LIABILITY

IMDG Code - International Maritime Dangerous Goods Code - Code for maritime transport

: Ensure that operators understand the flammability risks

Before using this product for a new application or for testing, a thorough material compatibility study and risk analysis should be performed. The information given in this document is believed to be accurate at the time of printing.

Despite the care taken in drafting this document, no liability can be accepted in the event of damage or accident resulting from its use.