

Hydrogen <5.7% balance nitrogen

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Trade name	: HYDROGEN <5.7% balance nitrogen
SDS No.	: 006
Relevant identified uses	: Industrial and professional. Perform risk assessment prior to use. For use as a welding shielding gas and for purging pipe during welding. Contact supplier for more information on uses.
Company Identification	: Air Liquide Philippines Inc.
Main Office	: 12F Ecotower, 32 nd St. cor. 9 th Ave., Bonifacio Global City, Taguig City 1634, Philippines
Main Plant	: Sandoval Ave., Pinagbuhatan, Pasig City
Phone No.	: (02) 838 – 1780 to 83 / 837-8135 to 37 / 8378-156 : 09189168312 (Customer hotline 6PM-8AM)

2 HAZARDS IDENTIFICATION

Classification of the substance

- **Physical Hazard** : Gases under pressure - Compressed gas – Warning- H280
- **Classification EC 67/548 or EC 1999/45** : Not classified as dangerous substance/mixture.

Label Elements

- **Hazard Pictogram**



- **Signal word** : Warning
- **Hazard Statement** : H280 - Contains gas under pressure; may explode if heated.
- **Precautionary statements**
 - **Storage** : P403 - Store in a well-ventilated area

Other Hazard

- **Other hazards** : Asphyxiant in high concentrations.



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3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Substance Name	Contents	CAS No.	EC No.	Index No.	Registration no.	Classification (DSD)	Classification(CLP)
Hydrogen	Between and 5.7%	1333-74-0	215-605-7	001-001-00-9	*1	F+; R12	Flam. Gas 1 (H220) Press. Gas Compressed (H280)
Nitrogen	balance	7727-37-9	231-783-9	-----	*1	Not classified (DSD)	Press. Gas Compressed (H280)

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

*1: Listed in Annex IV / V REACH, exempted from registration.

Full text of R-phrases see section 16. Full text of H-statements see section 16.

4 FIRST AID MEASURES

First Aid Measures

- Inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Skin / Eye Contact : Adverse effects not expected from this product
- Ingestion : Ingestion is not considered a potential route of exposure.

Most important symptoms and effects, both acute and delayed

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

Indication of any immediate medical attention and special treatment needed.

: None.



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5 FIRE FIGHTING MEASURES

Flammable class	: Non flammable
Specific hazards	: Exposure to fire may cause containers to rupture / explode
Hazardous Combustion Products	: None
Extinguishing media	
- Suitable extinguishing media	: Water spray or fog.
- Unsuitable extinguishing media	: Do not use water jet to extinguish
Specific methods	: If possible stop flow of product. Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Use water spray or fog to knock down fire fumes if possible.
Special protective equipment for fire fighters	: In confined space use self-contained breathing apparatus Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 – Protective clothing for firefighters. Standard EN 659 - Protective gloves for firefighters. Standard EN 137 – Self contained open-circuit compressed air breathing apparatus with full face mask.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions	: Evacuate area Try to stop release Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Monitor concentration of released product.
Environmental Precautions	: Try to stop release.
Clean up methods	: Ventilate area.



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7 HANDLING AND STORAGE

Safe use of the product

: Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Only experienced and properly instructed persons should handle gases under pressure.
The substance must be handled in accordance with good industrial hygiene and safety procedures.
Do not smoke while handling product.
Ensure complete gas system was (or is regularly) checked for leaks before use.
Consider pressure relief device(s) in gas installations.

Safe handling of the gas receptacle

: Refer to supplier's container handling instructions.
Do not allow backfeed into the container.
Protect cylinders from physical damage; do not drag, roll, slide or drop.
When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designated to transport cylinders.
Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.
If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.
Never attempt to repair or modify container valves or safety relief devices.
Damaged valves should be reported immediately to the supplier.
Keep container valve outlets clean and free from contaminants particularly oil and water.
Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
Close container valve after each use and when empty, even if still connected to equipment.
Never attempt to transfer gases from one cylinder/container to another.
Never use direct flame or electrical heating devices to raise the pressure of a container.
Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
Containers should be stored in the position and properly secured to prevent toppling.



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8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls

: Oxygen detectors should be used when asphyxiating gases may be released.
Provide adequate general and local exhaust ventilation.
Ensure exposure is below occupational exposure limits (where available).
Systems under pressure should be regularly checked for leakages.

Personal Protective Equipment

Consider work permit system e.g. for maintenance activities.
: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.
PPE compliant to the recommended EN/ISO standards should be selected.

-Eye/face protection

: Wear safety glasses with side shields.
Standard EN 166 – Personal eye-protection.

-Hand protection

: Wear working gloves when handling gas containers.
Standard EN 388 – Protective gloves against mechanical risk.

-Other

: Wear safety shoes while handling containers.
Standard EN ISO 20345 – Personal protective equipment – Safety footwear.

Respiratory protection

: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
Standard EN 137 – Self-contained open-circuit compressed air breathing apparatus with full face mask.

Thermal hazards

: None necessary

Environmental exposure controls

: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20°C/101.3kPa

: Gas

Color

: Mixtures contains one or more component(s) which have the following colors: Colorless



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Odor	: There may be no odor warning properties, odor is subjective and inadequate to warn of exposure. Mixture contains one or more component(s) which have the following odor: Odorless
Odor threshold	: Odor threshold is subjective and inadequate to warn for overexposure
pH value	: Not applicable for gas-mixtures
Molar mass (g/mol)	: Not applicable for gas-mixtures
Melting point (°C)	: Not applicable for gas-mixtures
Boiling point (°C)	: Not applicable for gas-mixtures
Flash point (°C)	: Not applicable for gas-mixtures
Evaporation rate (ether=1)	: Not applicable for gas-mixtures
Flammability range (vol% in air)	: Not applicable for gas-mixtures
Vapor pressure (20°C)	: Not applicable
Relative density, gas (air=1)	: Lighter or similar to air.
Solubility in water (mg/l)	: Solubility in water of component(s) of the mixture: *Nitrogen: 20 *Hydrogen:1.6
Partition coefficient n-octanol/water(log/Kow)	: Not applicable for gas-mixtures
Viscosity at 20°C (mPa.s)	: Not applicable
Explosive properties	: Not applicable
Oxidising Properties	: None
Other data	: None

10 STABILITY AND REACTIVITY

Reactivity	: No reactivity hazard other than the effects described in sub-sections below.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: None.
Conditions to avoid	: Avoid moisture in installation systems.
Incompatible materials	: For additional information on compatibility refer to ISO 11114
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 TOXICOLOGICAL INFORMATION

Acute toxicity	: No known toxicological effects from this product
Rat inhalation LC50 (ppm/4h)	: No data available
Skin corrosion/irritation	: No known effects from this product.
Serious eye damage/irritation	: No known effects from this product.
Respiratory or skin sensitization	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.



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Toxic for reproduction: Fertility	: No known effects from this product.
Toxic for reproduction: unborn child	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas-mixtures.

12 ECOLOGICAL INFORMATION

Toxicity	: Classification criteria are not met.
EC50 48h- Daphnia magna (mg/l)	: No data available
EC50 72h Algae (mg/l)	: No data available
LC50- 96h –fish (mg/l)	: No data available
Persistence and degradability	: No data available
Bioaccumulative potential	: No data available
Mobility in soil	: No data available.
Results of PBT and vPvB assessment	: No data available.
Effect on ozone layer	: None
Effect on the global warming	: No known ecological damage caused by this product.

13 DISPOSAL CONSIDERATIONS

Waste treatment methods	: Ensure that the emission levels from local regulations or operating permits are not exceeded.
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Do not discharge into any place where its accumulation could be dangerous. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods. Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN No.	: 1956
H.I. nr	: 20
ADR / RID	
- Proper shipping name	: COMPRESSED GAS, N.O.S (Nitrogen, Hydrogen)
- ADR Class	: 2
- ADR / RID Classification code	: 1 A

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- Labelling ADR



2.2: Non flammable, non toxic gas.

Other transport information

: Avoid transport on vehicles where the load space is not separated from the driver's compartment
Ensure vehicle driver 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 there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

15 REGULATORY INFORMATION

EU legislation

Seveso directive 96/82/EC

: Not covered.

National legislation

: Ensure all national/local regulations are observed.

Chemical safety assessment

: A CSA does not need to be carried out for this product.

16 OTHER INFORMATION

- Receptacle under pressure.
- Ensure all national/local regulations are observed.
- List of full text of R-phrases in section 3 : R12: Extremely flammable.
- List of full text of H-statements in section 3 : H220-Extremely flammable gas.
H280-Contains gas under pressure; may explode if heated.



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Recommended uses and restrictions:

This SDS is for information purposes only and is subject to change without prior notice. [Prior to purchase of products, please contact your local AIR LIQUIDE office for the latest SDS edition].

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