

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • Hydrogen (>2.9%), Argon or Neon or Krypton or Xenon (Balance)
Product Code • 60078

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Semiconductor Uses

1.3 Details of the supplier of the safety data sheet

Manufacturer • Air Liquide
2700 Post Oak Blvd.
Houston, TX 77056
United States
www.us.airliquide.com
sds@airliquide.com
Telephone (Technical) • 713-896-2896
Telephone (Technical) • 800-819-1704

1.4 Emergency telephone number

Manufacturer • 800-424-9300 - CHEMTREC
Manufacturer • +1 703-527-3887 - Outside United States

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Flammable Gases 1 - H220
Compressed Gas - H280
DSD/DPD • Extremely Flammable (F+)
R12

2.2 Label Elements

CLP

DANGER



Hazard statements • H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated

Precautionary statements

Prevention • P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.

Response • P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.

Storage/Disposal • P403 - Store in a well-ventilated place.

DSD/DPD



Risk phrases • R12 - Extremely flammable.

Safety phrases • S9 - Keep container in a well ventilated place
S16 - Keep away from sources of ignition - No Smoking.

2.3 Other Hazards

CLP

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Flammable Gases 1 - H220
Compressed Gas - H280
Simple Asphyxiant

2.2 Label elements

OSHA HCS 2012

DANGER



Hazard statements • Extremely flammable gas - H220
Contains gas under pressure; may explode if heated - H280
May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention • Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210

Response • Leaking gas fire: Do not extinguish, unless leak can be stopped safely. - P377
Eliminate all ignition sources if safe to do so. - P381

Storage/Disposal • Store in a well-ventilated place. - P403

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Compressed Gas - A
- Flammable Gases - B1

2.2 Label elements

WHMIS



- Compressed Gas - A
- Flammable Gases - B1

2.3 Other hazards

WHMIS

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA



Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition			
Chemical Name	Identifiers	%	Classifications According to Regulation/Directive
Xenon	CAS:7440-63-3 EINECS:231-172-7	0% TO 99%	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Neon	CAS:7440-01-9 EINECS:231-110-9	0% TO 99%	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Krypton	CAS:7439-90-9 EINECS:231-098-5	0% TO 99%	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Argon	CAS:7440-37-1 EC Number:231-147-0	0% TO 99%	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Hydrogen	CAS:1333-74-0 EC Number:215-605-7 EU Index:001-001-00-9	> 2.9%	EU DSD/DPD: Annex I - F+; R12 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp., H280 OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- Although exposure is unlikely, in case of contact immediately flush skin with running water. If skin irritation develops get medical advice/attention.

Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If eye irritation persists: Get medical advice/attention.

Ingestion

- Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

4.4 Other information

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- SMALL FIRES: Dry chemical or CO₂.
LARGE FIRES: Water spray or fog.

Unsuitable Extinguishing Media

- No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- EXTREMELY FLAMMABLE
Will form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.
Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
Containers may explode when heated.
Ruptured cylinders may rocket.

Hazardous Combustion Products

- No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear positive pressure self-contained breathing apparatus (SCBA).
DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED
Move containers from fire area if you can do it without risk.
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1

mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.

FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.

FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.

FIRE INVOLVING TANKS: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Ventilate the area before entry. Do not walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile) Keep unauthorized personnel away. Keep out of low areas. Stay upwind.

6.2 Environmental precautions

- Prevent spreading of vapors through sewers, ventilation systems and confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Do not direct water at spill or source of leak. Isolate area until gas has dispersed.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Keep away from heat and ignition sources – No Smoking. Take precautionary measures against static charges. All equipment used when handling the product must be grounded. Use only non-sparking tools. Use only with adequate ventilation. Ventilate closed spaces before entering. Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to olfactory fatigue or oxygen deficiency. Cylinders should be firmly secured to prevent falling or being knocked-over. Use explosion-proof - electrical, ventilating and/or lighting equipment. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52C (125F). Cylinders must be protected from the environment, and preferably kept at

room temperature approximately 21C (70F). Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over. Store locked up.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines • Currently there are no applicable exposure limits established for this material.

Exposure Control Notations

Portugal

- Hydrogen (1333-74-0): **Simple Asphyxiants:** (Simple Asphyxiant)
- Argon (7440-37-1): **Simple Asphyxiants:** (Simple Asphyxiant)
- Neon (7440-01-9): **Simple Asphyxiants:** (Simple Asphyxiant)

Ireland

- Hydrogen (1333-74-0): **Simple Asphyxiants:** (Asphyxiant)
- Argon (7440-37-1): **Simple Asphyxiants:** (Asphyxiant)
- Neon (7440-01-9): **Simple Asphyxiants:** (Asphyxiant)

Spain

- Hydrogen (1333-74-0): **Simple Asphyxiants:** (simple asphyxiant)
- Argon (7440-37-1): **Simple Asphyxiants:** (simple asphyxiant)
- Neon (7440-01-9): **Simple Asphyxiants:** (simple asphyxiant)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof - electrical, ventilating and/or lighting equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear leather gloves when handling cylinders.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with no odor.
Color	Colorless	Odor	Odorless
Odor Threshold	Not relevant		
General Properties			
Boiling Point	Data lacking	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Not relevant
Specific Gravity/Relative Density	Data lacking	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Data lacking

Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Flammable gas.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat, sparks, open flame.

10.5 Incompatible materials

- Incompatible with oxidizing materials.

10.6 Hazardous decomposition products

- The components of this product do not decompose, per se, but may react with other compounds in the heat of a fire.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. If this material is released in a small, poorly ventilated area (i.e. an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with decreased levels of oxygen: increase in breathing and pulse rate, emotional upset, abnormal fatigue, nausea, vomiting, collapse, loss of consciousness, convulsive movements, respiratory collapse and death.

Chronic (Delayed)

- No data available

Skin

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available

Eye

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available

Ingestion

Acute (Immediate)

- Ingestion is not anticipated to be a likely route of exposure to this product.

Chronic (Delayed)

- No data available

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1954	Compressed gas, flammable, n.o.s. (Hydrogen, Argon) or (Hydrogen, Krypton) or (Hydrogen, Neon) or (Hydrogen, Xenon)	2.1	NDA	NDA
TDG	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Hydrogen, Argon) or (Hydrogen, Krypton) or (Hydrogen, Neon) or (Hydrogen, Xenon)	2.1	NDA	NDA
IMO/IMDG	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Hydrogen, Argon) or (Hydrogen, Krypton) or (Hydrogen, Neon) or (Hydrogen, Xenon)	2.1	NDA	NDA
IATA/ICAO	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Hydrogen, Argon) or (Hydrogen, Krypton) or (Hydrogen, Neon) or (Hydrogen, Xenon)	2.1	NDA	NDA

14.6 Special precautions for user

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

14.8 Other information

- This material is forbidden to be shipped via Passenger aircraft.

Section 15 - Regulatory Information

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

SARA Hazard Classifications

- Acute, Fire, Pressure(Sudden Release of)

State Right To Know				
Component	CAS	MA	NJ	PA
Argon	7440-37-1	Yes	Yes	Yes
Hydrogen	1333-74-0	Yes	Yes	Yes
Krypton	7439-90-9	No	No	No
Neon	7440-01-9	Yes	Yes	Yes
Xenon	7440-63-3	No	No	No

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Argon	7440-37-1	Yes	No	Yes	Yes	No
Hydrogen	1333-74-0	Yes	No	Yes	Yes	No
Krypton	7439-90-9	Yes	No	Yes	Yes	No
Neon	7440-01-9	Yes	No	Yes	Yes	No
Xenon	7440-63-3	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
Argon	7440-37-1	Yes
Hydrogen	1333-74-0	Yes
Krypton	7439-90-9	Yes
Neon	7440-01-9	Yes
Xenon	7440-63-3	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Neon	7440-01-9	A
• Krypton	7439-90-9	A
• Hydrogen	1333-74-0	A, B1
• Argon	7440-37-1	A
• Xenon	7440-63-3	A

Canada - WHMIS - Ingredient Disclosure List

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

China

Environment**China - Ozone Depleting Substances - First Schedule**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

China - Ozone Depleting Substances - Second Schedule

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

China - Ozone Depleting Substances - Third Schedule

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Other**China - Annex I & II - Controlled Chemicals Lists**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

China - Dangerous Goods List

• Neon	7440-01-9	(compressed or refrigerated liquid)
• Krypton	7439-90-9	(compressed or refrigerated liquid)
• Hydrogen	1333-74-0	(compressed or refrigerated liquid)
• Argon	7440-37-1	(compressed or refrigerated liquid)
• Xenon	7440-63-3	(including Xenon, refrigerated liquid)

China - Export Control List - Part I Chemicals

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Europe**Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed

• Hydrogen	1333-74-0	F+; R12
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits		
• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling		
• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	F+ R:12 S:(2)-9-16-33
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations		
• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases		
• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	S:(2)-9-16-33
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Germany

Environment

Germany - TA Luft - Types and Classes

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	ID Number 741, not considered hazardous to water
• Argon	7440-37-1	ID Number 1348, not considered hazardous to water
• Xenon	7440-63-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed

• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Other**Germany - Specifically Regulated Chemicals in TRGS**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Portugal**Other****Portugal - Prohibited Substances**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

United Kingdom**Environment****United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Other**United Kingdom - Workplace Exposure Limits (WELs) - Substances in Review**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

United Kingdom - List of Dangerous Substances in Water

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Neon	7440-01-9	Not Listed
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• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed

• Xenon

7440-63-3

Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Neon	7440-01-9	Not Listed
• Krypton	7439-90-9	Not Listed
• Hydrogen	1333-74-0	Not Listed
• Argon	7440-37-1	Not Listed
• Xenon	7440-63-3	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date

- 09/September/2014

Preparation Date

- 09/September/2014

Disclaimer/Statement of Liability

- To the best of Air Liquide's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

Key to abbreviations

NDA = No Data Available