

Safety Data Sheet



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

1.1 Product identifier

Product Name	Carbon Monoxide (0.1%), Helium (0.1%), Hydrogen (0.1%), Nitrogen (0.1%), Acetylene (0.05%), n-Butane (0.05%), Carbon Dioxide (0.05%), Ethane (0.05%), Ethylene (0.05%), n-Heptane (0.05%), n-Hexane (0.05%), Methyl Acetylene (0.05%), Neon (0.05%), Oxygen (0.05%), n-Propane (0.05%), Methane (Balance)
Synonyms	Inficon-Universal
Product Code	90084

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

Relevant identified use(s)	Laboratory Instrument Calibration
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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 EU Directive 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 preparation 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
 - Reproductive Toxicity 1A - H360
 - 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 damage fertility or the unborn child. - H360
 - May displace oxygen and cause rapid suffocation.

Precautionary statements

- Prevention**
- Obtain special instructions before use. - P201
 - Do not handle until all safety precautions have been read and understood. - P202
 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210
 - Wear protective gloves/protective clothing/eye protection/face protection. - P280

- Response** • Leaking gas fire: Do not extinguish, unless leak can be stopped safely. - P377
Eliminate all ignition sources if safe to do so. - P381
IF exposed or concerned: Get medical advice/attention. - P308+P313
- Storage/Disposal** • Store in a well-ventilated place. - P403
Store locked up. - P405
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

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
Other Toxic Effects - D2A

2.2 Label elements

WHMIS



- Compressed Gas - A
Flammable Gases - B1
Other Toxic Effects - D2A

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

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Methane	CAS: 74-82-8 EC Number: 200-812-7	99.05%	NDA	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.	Balance
Carbon monoxide	CAS: 630-08-0 EC Number: 211-128-3	0.1%	Inhalation-Rat LC50 • 1807 ppm 4 Hour(s)	EU DSD/DPD: Annex I - F+; R12 ;Repr. Cat. 1; R61; T; R23-48/23 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp., H280; Repr. 1A, H360D; Acute Tox. 3 *, H331; STOT RE 1, H372 OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Repr 1A; Acute Tox 3 (inhl)	NDA
Helium	CAS: 7440-59-7 EINECS: 231-168-5	0.1%	NDA	EU DSD/DPD: Not Classified - Classification Criteria not met EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp; Simp. Asphyx	NDA
Hydrogen	CAS: 1333-74-0 EC Number: 215-605-7	0.1%	NDA	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.	NDA
Nitrogen	CAS: 7727-37-9 EINECS: 231-783-9	0.1%	NDA	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.	NDA
Acetylene	CAS: 74-86-2 EC Number: 200-816-9	0.05%	NDA	EU DSD/DPD: Annex I - R5, R6, F+; R12 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp, H280; EUH066 OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.	NDA
Butane	CAS: 106-97-8 EC Number: 203-448-7	0.05%	Inhalation-Rat LC50 • 658 g/m ³ 4 Hour(s)	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	NDA
Carbon dioxide	CAS: 124-38-9 EC Number: 204-696-9	0.05%	Inhalation-Rat LC50 • 470000 ppm 30 Minute (s)	EU DSD/DPD: Not Classified EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.	NDA
Ethane	CAS: 74-84-0 EC Number: 200-814-8	0.05%	NDA	EU DSD/DPD: Extremely Flammable(F+); R12 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp., Simp. Asphyx.	NDA
Ethylene	CAS: 74-85-1 EC Number: 200-815-3	0.05%	NDA	EU DSD/DPD: Annex I - F+; R12; R67 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp, H280; STOT SE 3, H336 OSHA HCS 2012: Eye Irrit. 2A; Press. Gas - Comp.; Flam. Gas 1; STOT SE 3: Narc.	NDA

Heptane	CAS: 142-82-5 EC Number: 205-563-8	0.05%	Inhalation-Rat LC50 • 103 g/m ³ 4 Hour(s)	EU DSD/DPD: Annex I - F; R11 Xn; R65 Xi; R38 R67 N; R50-53 EU CLP: Annex VI - Flam. Liq. 2 H225; Asp. Tox. 1 H320; Skin Irrit. 2 H315; STOT SE 3 H336; Aquatic Acute 1 H400; Aquatic Chronic 1 H410 OSHA HCS 2012: Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2; Asp. Tox. 1; STOT SE 3: Narc.	NDA
Hexane	CAS: 110-54-3 EC Number: 203-777-6	0.05%	Ingestion/Oral-Rat LD50 • 25 g/kg Inhalation-Rat LC50 • 48000 ppm 4 Hour(s)	EU DSD/DPD: Annex I - F; R11; Repr. 3; R62; Xn; R65-48/20; Xi; R38; R67; N; R51-53 EU CLP: Annex VI - Flam. Liq. 2, H225; Repr. 2, H361f; Asp. Tox. 1, H304; STOT RE 2*, H373; Skin Irrit. 2, H315; STOT SE 3: Narc., H336; Aquatic Chronic 2, H411 OSHA HCS 2012: Flam. Liq. 2; Repr. 2; STOT RE 2 - CNS & Nervous System; Skin Irrit. 2; Eye Irrit. 2B; STOT SE 3: Narc. & Resp. Irrit.; Asp. Tox. 1	NDA
Neon	CAS: 7440-01-9 EINECS: 231-110-9	0.05%	NDA	EU DSD/DPD: Self Classified - Not Classified EU CLP: Self Classification - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.	NDA
Oxygen	CAS: 7782-44-7 EC Number: 231-956-9	0.05%	NDA	EU DSD/DPD: Annex I - O; R8 EU CLP: Annex VI - Ox. Gas 1 OSHA HCS 2012: Ox. Gas 1; Press Gas. - Comp.	NDA
Propane	CAS: 74-98-6 EC Number: 200-827-9	0.05%	NDA	EU DSD/DPD: Annex I - F+; R12 EU CLP: Annex VI - Flam. Gas 1, H220 OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.	NDA
Methyl Acetylene	CAS: 74-99-7 EINECS: 200-828-4	0.05%	Inhalation-Rat LC50 • 135000 mg/m ³	EU DSD/DPD: Self Classified - F+, R12 Xi, R37, R67 EU CLP: Self Classified - Press. Gas; Flam. Gas 1, H220; STOT SE 3: Narc., H336; STOT SE 3: Resp. Irrit., H335 OSHA HCS 2012: Press. Gas; Flam. Gas 1; STOT SE 3: Narc.; STOT SE 3: Resp. Irrit.	NDA

See Section 16 for full text of H-statements and R-phrases.

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 irritation develops and persists, get medical 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. A potential health hazard associated with

this gas is anoxia.

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

before entry. Concentrations of component gases must be below any exposure limits listed in Section 8 and Oxygen levels must be above 19.5% before non-emergency personnel are allowed to re-enter area.

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. Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile)

6.2 Environmental precautions

- No special environmental precautions necessary.

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						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	China Highly Toxic Goods

Carbon dioxide (124-38-9)	STELs	30000 ppm STEL	30000 ppm STEL	30000 ppm STEV; 54000 mg/m3 STEV	18000 mg/m3 STEL	Not established
	TWAs	5000 ppm TWA	5000 ppm TWA	5000 ppm TWAEV; 9000 mg/m3 TWAEV	9000 mg/m3 TWA	Not established
Hexane (110-54-3)	STELs	Not established	Not established	Not established	180 mg/m3 STEL	Not established
	TWAs	50 ppm TWA	50 ppm TWA	50 ppm TWAEV; 176 mg/m3 TWAEV	100 mg/m3 TWA	Not established
Heptane (142-82-5)	STELs	500 ppm STEL (listed under Heptane, all isomers)	500 ppm STEL (listed under Heptane, all isomers)	500 ppm STEV; 2050 mg/m3 STEV	1000 mg/m3 STEL	Not established
	TWAs	400 ppm TWA (listed under Heptane, all isomers)	400 ppm TWA	400 ppm TWAEV; 1640 mg/m3 TWAEV	500 mg/m3 TWA	Not established
Methyl Acetylene (74-99-7)	STELs	Not established	1250 ppm STEL	Not established	Not established	Not established
	TWAs	1000 ppm TWA	1000 ppm TWA	1000 ppm TWAEV; 1640 mg/m3 TWAEV	Not established	Not established
Ethylene (74-85-1)	TWAs	200 ppm TWA	200 ppm TWA	Not established	Not established	Not established
Ethane (74-84-0)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	Not established	Not established	Not established
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	1000 ppm TWAEV; 1800 mg/m3 TWAEV	Not established	Not established
Butane (106-97-8)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	800 ppm TWA (listed under Aliphatic hydrocarbon gases)	800 ppm TWAEV; 1900 mg/m3 TWAEV	Not established	Not established
Carbon monoxide (630-08-0)	Ceilings	Not established	Not established	Not established	20 mg/m3 Ceiling [MAC] (high altitude area, 2000-3000m); 15 mg/m3 Ceiling [MAC] (high altitude area, >3000m)	Not established
	STELs	Not established	100 ppm STEL	200 ppm STEV; 230 mg/m3 STEV	30 mg/m3 STEL (not in high altitude area)	30 mg/m3 STEL (not in high altitude area)
	TWAs	25 ppm TWA	25 ppm TWA	35 ppm TWAEV; 40 mg/m3 TWAEV	20 mg/m3 TWA (not in high altitude area)	20 mg/m3 TWA (not in high altitude area)
Methane (74-82-8)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	Not established	Not established	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Europe	France	Germany DFG	Germany TRGS	Ireland
Carbon dioxide (124-38-9)	TWAs	5000 ppm TWA; 9000 mg/m3 TWA	5000 ppm TWA [VME] (indicative limit); 9000 mg/m3 TWA [VME] (indicative limit)	Not established	5000 ppm TWA AGW (exposure factor 2); 9100 mg/m3 TWA AGW (exposure factor 2)	5000 ppm TWA; 9000 mg/m3 TWA
	Ceilings	Not established	Not established	10000 ppm Peak; 18200 mg/m3 Peak	Not established	Not established

	MAKs	Not established	Not established	5000 ppm TWA MAK; 9100 mg/m3 TWA MAK	Not established	Not established
Hexane (110-54-3)	TWAs	20 ppm TWA; 72 mg/m3 TWA	20 ppm TWA [VME] (restrictive limit); 72 mg/m3 TWA [VME] (restrictive limit)	Not established	50 ppm TWA AGW (exposure factor 8); 180 mg/m3 TWA AGW (exposure factor 8)	20 ppm TWA; 72 mg/m3 TWA
	Ceilings	Not established	Not established	400 ppm Peak; 1440 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	50 ppm TWA MAK; 180 mg/m3 TWA MAK	Not established	Not established
Heptane (142-82-5)	STELs	Not established	500 ppm STEL [VLCT] (restrictive limit); 2085 mg/m3 STEL [VLCT] (restrictive limit)	Not established	Not established	Not established
	TWAs	Not established	400 ppm TWA [VME] (restrictive limit); 1668 mg/m3 TWA [VME] (restrictive limit)	Not established	500 ppm TWA AGW (all isomers, exposure factor 1); 2100 mg/m3 TWA AGW (all isomers, exposure factor 1)	500 ppm TWA; 2085 mg/m3 TWA
	Ceilings	Not established	Not established	500 ppm Peak; 2100 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	500 ppm TWA MAK; 2100 mg/m3 TWA MAK	Not established	Not established
Methyl Acetylene (74-99-7)	TWAs	Not established	1000 ppm TWA [VME]; 1650 mg/m3 TWA [VME]	Not established	Not established	1000 ppm TWA; 1610 mg/m3 TWA
Ethylene (74-85-1)	TWAs	Not established	Not established	Not established	Not established	200 ppm TWA
Ethane (74-84-0)	TWAs	Not established	Not established	Not established	Not established	1000 ppm TWA
Propane (74-98-6)	TWAs	Not established	Not established	Not established	1000 ppm TWA AGW (exposure factor 4); 1800 mg/m3 TWA AGW (exposure factor 4)	1000 ppm TWA
	Ceilings	Not established	Not established	4000 ppm Peak; 7200 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	1000 ppm TWA MAK; 1800 mg/m3 TWA MAK	Not established	Not established
Butane (106-97-8)	TWAs	Not established	800 ppm TWA [VME]; 1900 mg/m3 TWA [VME]	Not established	1000 ppm TWA AGW (exposure factor 4); 2400 mg/m3 TWA AGW (exposure factor 4)	1000 ppm TWA
	Ceilings	Not established	Not established	4000 ppm Peak (listed under Butane); 9600 mg/m3 Peak	Not established	Not established

				(listed under Butane)		
	MAKs	Not established	Not established	1000 ppm TWA MAK; 2400 mg/m3 TWA MAK	Not established	Not established
Carbon monoxide (630-08-0)	TWAs	Not established	50 ppm TWA [VME]; 55 mg/m3 TWA [VME]	Not established	30 ppm TWA AGW (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed, exposure factor 1); 35 mg/m3 TWA AGW (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed, exposure factor 1)	20 ppm TWA; 23 mg/m3 TWA
	STELs	Not established	Not established	Not established	Not established	100 ppm STEL; 115 mg/m3 STEL
	Ceilings	Not established	Not established	60 ppm Peak; 70 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	30 ppm TWA MAK; 35 mg/m3 TWA MAK	Not established	Not established
Methane (74-82-8)	TWAs	Not established	Not established	Not established	Not established	1000 ppm TWA

Exposure Limits/Guidelines (Con't.)

	Result	Israel	Italy	NIOSH	OSHA	Portugal
Carbon dioxide (124-38-9)	STELs	30000 ppm STEL	Not established	30000 ppm STEL; 54000 mg/m3 STEL	Not established	30000 ppm STEL [VLE-CD]
	TWAs	5000 ppm TWA	5000 ppm TWA; 9000 mg/m3 TWA	5000 ppm TWA; 9000 mg/m3 TWA	5000 ppm TWA; 9000 mg/m3 TWA	5000 ppm TWA [VLE-MP]
Hexane (110-54-3)	TWAs	50 ppm TWA	20 ppm TWA; 72 mg/m3 TWA	50 ppm TWA; 180 mg/m3 TWA	500 ppm TWA; 1800 mg/m3 TWA	50 ppm TWA [VLE-MP]
Heptane (142-82-5)	STELs	500 ppm STEL	Not established	Not established	Not established	500 ppm STEL [VLE-CD]
	TWAs	400 ppm TWA	500 ppm TWA; 2085 mg/m3 TWA	85 ppm TWA; 350 mg/m3 TWA	500 ppm TWA; 2000 mg/m3 TWA	400 ppm TWA [VLE-MP]
	Ceilings	Not established	Not established	440 ppm Ceiling (15 min); 1800 mg/m3 Ceiling (15 min)	Not established	Not established
Methyl Acetylene (74-99-7)	TWAs	1000 ppm TWA	Not established	1000 ppm TWA; 1650 mg/m3 TWA	1000 ppm TWA; 1650 mg/m3 TWA	1000 ppm TWA [VLE-MP]
Ethylene (74-85-1)	TWAs	200 ppm TWA	Not established	Not established	Not established	200 ppm TWA [VLE-MP]
Ethane (74-84-0)	TWAs	1000 ppm TWA (gas)	Not established	Not established	Not established	1000 ppm TWA [VLE-MP]
Propane (74-98-6)	TWAs	1000 ppm TWA (gas)	Not established	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA [VLE-MP]
Butane (106-97-8)	TWAs	1000 ppm TWA (gas)	Not established	800 ppm TWA; 1900 mg/m3 TWA	Not established	Not established

Acetylene (74-86-2)	Ceilings	Not established	Not established	2500 ppm Ceiling; 2662 mg/m3 Ceiling	Not established	Not established
Carbon monoxide (630-08-0)	TWAs	25 ppm TWA	Not established	35 ppm TWA; 40 mg/m3 TWA	50 ppm TWA; 55 mg/m3 TWA	25 ppm TWA [VLE- MP]
	Ceilings	Not established	Not established	200 ppm Ceiling; 229 mg/m3 Ceiling	Not established	Not established
Methane (74-82-8)	TWAs	1000 ppm TWA (gas)	Not established	Not established	Not established	1000 ppm TWA [VLE- MP]
Exposure Limits/Guidelines (Con't.)						
	Result	Spain		Sweden		
Carbon dioxide (124-38-9)	TWAs	5000 ppm TWA [VLA- ED] (indicative limit value); 9150 mg/m3 TWA [VLA-ED] (indicative limit value)		5000 ppm LLV; 9000 mg/m3 LLV		
	STELs	Not established		10000 ppm STV; 18000 mg/m3 STV		
Hexane (110-54-3)	TWAs	20 ppm TWA [VLA-ED] (indicative limit value); 72 mg/m3 TWA [VLA- ED] (indicative limit value)		25 ppm LLV; 90 mg/m3 LLV		
	Biological Limit Values (BLV)	0.4 mg/L urine end of workweek 2,5- Hexanedione (without hydrolysis) (1,8)		Not established		
	STELs	Not established		50 ppm STV; 180 mg/m3 STV		
Heptane (142-82-5)	TWAs	500 ppm TWA [VLA- ED] (indicative limit value); 2085 mg/m3 TWA [VLA-ED] (indicative limit value)		200 ppm LLV; 800 mg/m3 LLV		
	STELs	Not established		300 ppm STV; 1200 mg/m3 STV		
Methyl Acetylene (74-99-7)	TWAs	1000 ppm TWA [VLA- ED]; 1665 mg/m3 TWA [VLA-ED]		Not established		
Ethylene (74-85-1)	TWAs	200 ppm TWA [VLA- ED]		250 ppm LLV; 330 mg/m3 LLV		
	STELs	Not established		1000 ppm STV; 1200 mg/m3 STV		
Ethane (74-84-0)	TWAs	1000 ppm TWA [VLA- ED]		Not established		
Propane (74-98-6)	TWAs	1000 ppm TWA [VLA- ED]		Not established		
Butane (106-97-8)	TWAs	1000 ppm TWA [VLA- ED]		Not established		
	TWAs	25 ppm TWA [VLA-ED]; 29 mg/m3 TWA [VLA- ED]		20 ppm LLV (regulated under exhaust fumes); 25 mg/m3 LLV (regulated under exhaust fumes); 35		

			ppm LLV; 40 mg/m3 LLV
Carbon monoxide (630-08-0)	Biological Limit Values (BLV)	3.5 % of Carboxyhemoglobin in total hemoglobin blood end of shift Carboxyhemoglobin (2,F,I); 20 ppm alveolar air end of shift CO end- cut of exhaled air (2,F,I)	Not established
	STELs	Not established	100 ppm STV; 120 mg/m3 STV
Methane (74-82-8)	TWAs	1000 ppm TWA [VLA- ED]	Not established

Exposure Control Notations

Portugal

- Neon (7440-01-9): **Simple Asphyxiants:** (Simple Asphyxiant)
- Ethylene (74-85-1): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Hydrogen (1333-74-0): **Simple Asphyxiants:** (Simple Asphyxiant)
- Hexane (110-54-3): **Skin:** (skin - potential for cutaneous exposure)
- Acetylene (74-86-2): **Simple Asphyxiants:** (Simple Asphyxiant)
- Nitrogen (7727-37-9): **Simple Asphyxiants:** (Simple Asphyxiant)
- Helium (7440-59-7): **Simple Asphyxiants:** (Simple Asphyxiant)

Italy

- Butane (106-97-8): **Carcinogens:** (Category 1 Carcinogen (containing >= 0.1% Butadiene)) | **Mutagens:** (Category 2 Mutagen (containing >= 0.1% Butadiene))

France

- Carbon monoxide (630-08-0): **Reproductive Toxins:** (Reproductive Toxin category 1)
- Hexane (110-54-3): **Reproductive Toxins:** (Reproductive Toxin category 3)

Ireland

- Carbon monoxide (630-08-0): **Substances with Potential Chronic Health Effects:** (Category 1 Reproductive Toxin)
- Neon (7440-01-9): **Simple Asphyxiants:** (Asphyxiant)
- Ethylene (74-85-1): **Simple Asphyxiants:** (Asphyxiant)
- Hydrogen (1333-74-0): **Simple Asphyxiants:** (Asphyxiant)
- Ethane (74-84-0): **Simple Asphyxiants:** (Asphyxiant)
- Propane (74-98-6): **Simple Asphyxiants:** (Asphyxiant)
- Acetylene (74-86-2): **Simple Asphyxiants:** (Asphyxiant)
- Nitrogen (7727-37-9): **Simple Asphyxiants:** (Asphyxiant)
- Helium (7440-59-7): **Simple Asphyxiants:** (Asphyxiant)
- Methane (74-82-8): **Simple Asphyxiants:** (Asphyxiant)

Spain

- Carbon monoxide (630-08-0): **Reproductive Toxins:** (known reproductive toxins with classification from human data)
- Neon (7440-01-9): **Simple Asphyxiants:** (simple asphyxiant)
- Hydrogen (1333-74-0): **Simple Asphyxiants:** (simple asphyxiant)
- Acetylene (74-86-2): **Simple Asphyxiants:** (simple asphyxiant)
- Nitrogen (7727-37-9): **Simple Asphyxiants:** (simple asphyxiant)
- Helium (7440-59-7): **Simple Asphyxiants:** (simple asphyxiant)

Sweden

- Carbon monoxide (630-08-0): **Reproductive Toxins:** (Causes reproductive disturbances)

Germany TRGS

- Ethylene (74-85-1): **Carcinogens:** (Based on current data, this substance can not be classified in categories 1-3) | **Developmental Toxins:** (Based on current data, this substance can not be classified in categories 1-3) | **Reproductive Toxins:** (Based on current data, this substance can not be classified in categories 1-3) | **Germ Cell Mutagens:** (Category 3)

Germany DFG

- Carbon monoxide (630-08-0): **Pregnancy:** (risk to embryo/fetus probable)
- Ethylene (74-85-1): **Carcinogens:** (Category 3B (could be carcinogenic for man))
- Heptane (142-82-5): **Pregnancy:** (classification not yet possible)
- Propane (74-98-6): **Pregnancy:** (classification not yet possible)
- Butane (106-97-8): **Pregnancy:** (classification not yet possible)
- Hexane (110-54-3): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

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. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

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.

Key to abbreviations

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

STEL = Short Term Exposure Limits are based on 15-minute exposures

STEV = Short Term Exposure Value

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless compressed gas with no odor.
Color	Colorless	Odor	Odorless
Odor Threshold	Data lacking		
General Properties			
Boiling Point	-162 C(-259.6 F) Methane	Melting Point	-182.5 C(-296.5 F) Methane
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Bulk Density	Data lacking
Water Solubility	24.2 mg/L @ 20 C(68 F) Methane	Viscosity	Data lacking
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	46700 hPa @ -82.5 C(-116.5 F) Methane	Vapor Density	0.56 Air=1 Methane
Evaporation Rate	Data lacking		

Flammability

Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	537 C(998.6 F) Methane
Self-Accelerating Decomposition Temperature (SADT)	Data lacking	Flammability (solid, gas)	Flammable gas.

Environmental

Half-Life	Data lacking	Octanol/Water Partition coefficient	Data lacking
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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

- Avoid exposing cylinders to extremely high temperatures, which could cause cylinders to rupture.

10.5 Incompatible materials

- No data available

10.6 Hazardous decomposition products

- No data available

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Carbon monoxide (0.1%)	630-08-0	Acute Toxicity: ihl-rat LC50:1807 ppm/4H; Reproductive: ihl-rat TCLo:150 ppm (0-20D preg)
Butane (0.05%)	106-97-8	Acute Toxicity: ihl-rat LC50:658 gm/m3/4H
Carbon dioxide (0.05%)	124-38-9	Acute Toxicity: ihl-rat LC50:470000 ppm/30M; Reproductive: ihl-rat TCLo:6 pph/24H (10D preg)
Heptane (0.05%)	142-82-5	Acute Toxicity: ihl-rat LC50:103 gm/m3/4H
Hexane (0.05%)	110-54-3	Acute Toxicity: ori-rat LD50:25 gm/kg; ihl-rat LC50:48000 ppm/4H; Irritation: eye-rbt 10 mg MLD; Reproductive: ihl-rat TCLo:5000 ppm (6-19D preg)
Oxygen (0.05%)	7782-44-7	Reproductive: ihl-rat TCLo:10 pph/9H (22D preg)
Methyl Acetylene (0.05%)	74-99-7	Acute Toxicity: ihl-rat LC50:135000 mg/m3

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 • Toxic to Reproduction 1A
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

Route(s) of entry/exposure

- Skin, Eye, Inhalation, and Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)

- 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)

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

Skin

Acute (Immediate)

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

Chronic (Delayed)

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

Eye

Acute (Immediate)

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

Chronic (Delayed)

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

Ingestion

Acute (Immediate)

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

Chronic (Delayed)

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

Carcinogenic Effects

- Not classified or listed by IARC, NTP, OSHA, EU and ACGIH

Reproductive Effects

- The Carbon Monoxide component of this gas mixture can cause teratogenic effects in humans. Severe exposure to Carbon Monoxide during pregnancy has caused adverse effects and the death of the fetus. In general, maternal symptoms are an indicator of

the potential risk to the fetus since Carbon Monoxide is toxic to the mother before it is toxic to the fetus.

Key to abbreviations

TC = Toxic Concentration

LD = Lethal Dose

MLD = Mild

LC = Lethal Concentration

Section 12 - Ecological Information

12.1 Toxicity

Component	CAS	Data	Comments
Hexane (0.05%)	110-54-3	Fish: 96 Hour(s) LC50 Fish 2.1-2.98 mg/L	

- 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

- PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

- Material data lacking.

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. (Methane)	2.1	NDA	NDA
TDG	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane)	2.1	NDA	NDA

IMO/IMDG	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane)	2.1	NDA	NDA
IATA/ICAO	UN1954	Compressed gas, flammable, n.o.s. (Methane)	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

- DOT** • According to Appendix A to 49 CFR 172.101 Hexane has a reportable quantity of 5000 lbs (2270kg)

Section 15 - Regulatory Information

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

SARA Hazard Classifications • Acute, Chronic, Fire, Pressure(Sudden Release of)

State Right To Know				
Component	CAS	MA	NJ	PA
Methane	74-82-8	Yes	Yes	Yes
Carbon monoxide	630-08-0	Yes	Yes	Yes
Helium	7440-59-7	Yes	Yes	Yes
Hydrogen	1333-74-0	Yes	Yes	Yes
Nitrogen	7727-37-9	Yes	Yes	Yes
Acetylene	74-86-2	Yes	Yes	Yes
Butane	106-97-8	Yes	Yes	Yes
Carbon dioxide	124-38-9	Yes	Yes	Yes
Ethane	74-84-0	Yes	Yes	Yes
Ethylene	74-85-1	Yes	Yes	Yes
Heptane	142-82-5	Yes	Yes	Yes
Hexane	110-54-3	Yes	Yes	Yes
Neon	7440-01-9	Yes	Yes	Yes
Oxygen	7782-44-7	Yes	Yes	Yes
Propane	74-98-6	Yes	Yes	Yes
Methyl Acetylene	74-99-7	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Methane	74-82-8	Yes	No	Yes	Yes	No
Carbon monoxide	630-08-0	Yes	No	Yes	Yes	No

Helium	7440-59-7	Yes	No	Yes	Yes	No
Hydrogen	1333-74-0	Yes	No	Yes	Yes	No
Nitrogen	7727-37-9	Yes	No	Yes	Yes	No
Acetylene	74-86-2	Yes	No	Yes	Yes	No
Butane	106-97-8	Yes	No	Yes	Yes	No
Carbon dioxide	124-38-9	Yes	No	Yes	Yes	No
Ethane	74-84-0	Yes	No	Yes	Yes	No
Ethylene	74-85-1	Yes	No	Yes	Yes	No
Heptane	142-82-5	Yes	No	Yes	Yes	No
Hexane	110-54-3	Yes	No	Yes	Yes	No
Neon	7440-01-9	Yes	No	Yes	Yes	No
Oxygen	7782-44-7	Yes	No	Yes	Yes	No
Propane	74-98-6	Yes	No	Yes	Yes	No
Methyl Acetylene	74-99-7	Yes	No	No	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
Methane	74-82-8	Yes
Carbon monoxide	630-08-0	Yes
Helium	7440-59-7	Yes
Hydrogen	1333-74-0	Yes
Nitrogen	7727-37-9	Yes
Acetylene	74-86-2	Yes
Butane	106-97-8	Yes
Carbon dioxide	124-38-9	Yes
Ethane	74-84-0	Yes
Ethylene	74-85-1	Yes
Heptane	142-82-5	Yes
Hexane	110-54-3	Yes
Neon	7440-01-9	Yes
Oxygen	7782-44-7	Yes
Propane	74-98-6	Yes
Methyl Acetylene	74-99-7	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Carbon monoxide 630-08-0 0.1% A, B1, D1A, D2A
- Neon 7440-01-9 0.05% A
- Methyl Acetylene 74-99-7 0.05% A, B1
- Ethylene 74-85-1 0.05% A, B1, D2B
- Hydrogen 1333-74-0 0.1% A, B1
- Ethane 74-84-0 0.05% A, B1
- Oxygen 7782-44-7 0.05% A, C

• Carbon dioxide	124-38-9	0.05%	A; Uncontrolled product according to WHMIS classification criteria (solid)
• Heptane	142-82-5	0.05%	B2, D2B
• Propane	74-98-6	0.05%	A, B1
• Butane	106-97-8	0.05%	A, B1
• Hexane	110-54-3	0.05%	B2, D2A, D2B
• Acetylene	74-86-2	0.05%	A, B1, F; A, B1 (dissolved)
• Nitrogen	7727-37-9	0.1%	A
• Helium	7440-59-7	0.1%	A
• Methane	74-82-8	99.05%	A, B1

Canada - WHMIS - Ingredient Disclosure List

• Carbon monoxide	630-08-0	0.1%	0.1 %
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	1 %
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	1 %
• Heptane	142-82-5	0.05%	1 %
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	1 %
• Hexane	110-54-3	0.05%	1 %
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

China

Environment

China - Ozone Depleting Substances - First Schedule

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

China - Ozone Depleting Substances - Second Schedule

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

China - Ozone Depleting Substances - Third Schedule

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed

• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Other

China - Annex I & II - Controlled Chemicals Lists

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

China - Dangerous Goods List

• Carbon monoxide	630-08-0	0.1%	UN1016
• Neon	7440-01-9	0.05%	UN1065; UN1913
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	UN1038; UN1962
• Hydrogen	1333-74-0	0.1%	UN1049; UN1966
• Ethane	74-84-0	0.05%	UN1035; UN1961
• Oxygen	7782-44-7	0.05%	UN1072; UN1073
• Carbon dioxide	124-38-9	0.05%	UN1013; UN1845 PG = III; UN2187
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	UN1978
• Butane	106-97-8	0.05%	UN1011
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	UN1001
• Nitrogen	7727-37-9	0.1%	UN1066; UN1977
• Helium	7440-59-7	0.1%	UN1046; UN1963
• Methane	74-82-8	99.05%	UN1971; UN1972

China - Export Control List - Part I Chemicals

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Europe

Other

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

• Carbon monoxide	630-08-0	0.1%	F+; R12 T; R23-48/23 Repr.Cat.1; R61
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	F+; R12 R67
• Hydrogen	1333-74-0	0.1%	F+; R12
• Ethane	74-84-0	0.05%	F+; R12
• Oxygen	7782-44-7	0.05%	O; R8
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	F; R11 Xi; R38 N; R50-53 Xn; R65 R67
• Propane	74-98-6	0.05%	F+; R12
• Butane	106-97-8	0.05%	F+; R12
• Hexane	110-54-3	0.05%	F; R11 Xi; R38 N; R51-53 Repr.Cat.3; R62 Xn; R65-48/20 R67
• Acetylene	74-86-2	0.05%	F+; R12 R5 R6
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	F+; R12

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed

• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	5%<=C: Xn; R48/20
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Carbon monoxide	630-08-0	0.1%	F+ T R:61-12-23-48/23 S:53-45
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	F+ R:12-67 S:(2)-9-16-33-45
• Hydrogen	1333-74-0	0.1%	F+ R:12 S:(2)-9-16-33
• Ethane	74-84-0	0.05%	F+ R:12 S:(2)-9-16-33
• Oxygen	7782-44-7	0.05%	O R:8 S:(2)-17
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	F Xn N R:11-38-65-67-50/53 S:(2)-9-16-29-33-60-61-62
• Propane	74-98-6	0.05%	F+ R:12 S:(2)-9-16
• Butane	106-97-8	0.05%	F+ R:12 S:(2)-9-16
• Hexane	110-54-3	0.05%	F Xn N R:11-38-48/20-62-65-67-51/53 S:(2)-9-16-29-33-36/37-61-62
• Acetylene	74-86-2	0.05%	F+ R:5-6-12 S:(2)-9-16-33
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	F+ R:12 S:(2)-9-16-33

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Carbon monoxide	630-08-0	0.1%	E
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	C
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	C
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Carbon monoxide	630-08-0	0.1%	S:53-45
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• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	S:(2)-9-16-33-45
• Hydrogen	1333-74-0	0.1%	S:(2)-9-16-33
• Ethane	74-84-0	0.05%	S:(2)-9-16-33
• Oxygen	7782-44-7	0.05%	S:(2)-17
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	S:(2)-9-16-29-33-60-61-62
• Propane	74-98-6	0.05%	S:(2)-9-16
• Butane	106-97-8	0.05%	S:(2)-9-16
• Hexane	110-54-3	0.05%	S:(2)-9-16-29-33-36/37-61-62
• Acetylene	74-86-2	0.05%	S:(2)-9-16-33
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	S:(2)-9-16-33

Germany

Environment

Germany - TA Luft - Types and Classes

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	organic substance: 5.2.5, Class I
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	ID Number 4632, not considered hazardous to water
• Ethylene	74-85-1	0.05%	ID Number 742, not considered hazardous to water
• Hydrogen	1333-74-0	0.1%	ID Number 741, not considered hazardous to water
• Ethane	74-84-0	0.05%	ID Number 91, not considered hazardous to water
• Oxygen	7782-44-7	0.05%	ID Number 743, not considered hazardous to water
• Carbon dioxide	124-38-9	0.05%	ID Number 256, not considered hazardous to water
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	ID Number 560, not considered hazardous to water

• Butane	106-97-8	0.05%	ID Number 561, not considered hazardous to water (1,3-Butadiene <0.1%)
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	ID Number 1182, not considered hazardous to water
• Nitrogen	7727-37-9	0.1%	ID Number 1351, not considered hazardous to water
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	ID Number 1343, not considered hazardous to water

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

• Carbon monoxide	630-08-0	0.1%	ID Number 257, hazard class 1 - low hazard to waters
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	ID Number 120, hazard class 2 - hazard to waters
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	ID Number 124, hazard class 2 - hazard to waters
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	ID Number 120, hazard class 2 - hazard to waters
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Other

Germany - Specifically Regulated Chemicals in TRGS

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed

• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Portugal

Other

Portugal - Prohibited Substances

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

United Kingdom

Environment

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

• Carbon monoxide	630-08-0	0.1%	100000 kg
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	1000 kg
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed

• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	10000000 kg (qualifying renewable fuel sources are reportable when the total amount of CO2 released is above 10 million kg); 10000000 kg
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	10 kg
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	10000 kg

United Kingdom - Substances Contained in Dangerous Substances or Preparations

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Other

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

United Kingdom - The Red List - Dangerous Substances in Water

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

United States

Labor

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed

• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

Environment

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	5000 lb final RQ; 2270 kg final RQ
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed

• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	1.0 % de minimis concentration
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	1.0 % de minimis concentration
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	developmental toxicity, initial date 7/1/89
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed

• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed

• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

United States - Pennsylvania

Labor

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

• Carbon monoxide	630-08-0	0.1%	
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed
• Methane	74-82-8	99.05%	Not Listed

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

• Carbon monoxide	630-08-0	0.1%	Not Listed
• Neon	7440-01-9	0.05%	Not Listed
• Methyl Acetylene	74-99-7	0.05%	Not Listed
• Ethylene	74-85-1	0.05%	Not Listed
• Hydrogen	1333-74-0	0.1%	Not Listed
• Ethane	74-84-0	0.05%	Not Listed
• Oxygen	7782-44-7	0.05%	Not Listed
• Carbon dioxide	124-38-9	0.05%	Not Listed
• Heptane	142-82-5	0.05%	Not Listed
• Propane	74-98-6	0.05%	Not Listed
• Butane	106-97-8	0.05%	Not Listed
• Hexane	110-54-3	0.05%	Not Listed
• Acetylene	74-86-2	0.05%	Not Listed
• Nitrogen	7727-37-9	0.1%	Not Listed
• Helium	7440-59-7	0.1%	Not Listed

• Methane 74-82-8 99.05% Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H304 - May be fatal if swallowed and enters airways
- H315 - Causes skin irritation
- H331 - Toxic if inhaled
- H335 - May cause respiratory irritation
- H336 - May cause drowsiness or dizziness
- H360D - May damage the unborn child.
- H361f - Suspected of damaging fertility.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H411 - Toxic to aquatic life with long lasting effects
- EUH066 - Repeated exposure may cause skin dryness or cracking.
- R5 - Heating may cause an explosion.
- R6 - Explosive with or without contact with air.
- R8 - Contact with combustible material may cause fire.
- R11 - Highly flammable.
- R23 - Toxic by inhalation.
- R37 - Irritating to respiratory system.
- R38 - Irritating to skin.
- R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R61 - May cause harm to the unborn child.
- R62 - Possible risk of impaired fertility.
- R65 - Harmful: may cause lung damage if swallowed.
- R67 - Vapours may cause drowsiness and dizziness.

Last Revision Date

- 12/April/2013

Preparation Date

- 12/April/2013

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