

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 06/17/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : Carbon Monoxide (1.00% - 9.39%), Carbon Dioxide (3.00% - 25.00%) & Propane (0.0001% -

0.50%) in Nitrogen

Product code : SG-2004-01199

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

Use of the substance/mixture : Test gas/Calibration gas.

1.3. Details of the supplier of the safety data sheet

Air Liquide America Specialty Gases 6141 Easton Rd Plumsteadville, PA 18949 - USA T 1.800.217.2688 www.airliquide.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

 Compressed gas
 H280

 Repr. 1A
 H360

 STOT RE 1
 H372

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated

H360 - May damage fertility or the unborn child (Inhalation)

H372 - Causes damage to organs (central nervous system) through prolonged or repeated

exposure (Inhalation)

CGA-HG10 - Asphyxiating even with adequate oxygen CGA-HG03 - May increase respiration and heart rate

Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves, eye protection, face protection, protective clothing

P260 - Do not breathe gas, vapors

P304 + P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

P313 - Get medical advice/attention

CGA-PG05 - Use a back flow preventive device in the piping CGA-PG10 - Use only with equipment rated for cylinder pressure CGA-PG14 - Approach suspected leak area with caution

CGA-PG12 - Do not open valve until connected to equipment prepared for use.

CGA-PG21 - Open valve slowly

CGA-PG06 - Close valve after each use and when empty

CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

P403 - Store in a well-ventilated place

08/19/2014 EN (English US) Page 1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards

Other hazards not contributing to the : This product contains a chemical asphyxiant.

classification

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Nitrogen	(CAS No)7727-37-9	65.11 - 95.9999	Compressed gas, H280
Carbon dioxide	(CAS No)124-38-9	3 - 25	Simple Asphy, H380 Liquefied gas, H280
Carbon monoxide	(CAS No)630-08-0	1 - 9.39	Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Repr. 1A, H360 STOT RE 1, H372
Propane	(CAS No)74-98-6	0.0001 - 0.5	Flam. Gas 1, H220 Liquefied gas, H280

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell,

seek medical advice.

First-aid measures after skin contact : Adverse effects not expected from this product. First-aid measures after eye contact : Adverse effects not expected from this product.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Symptoms similar to those listed under inhalation.

Symptoms/injuries after inhalation : Asphyxiating even with adequate oxygen. May increase respiration and heart rate.

Symptoms/injuries after skin contact : Adverse effects not expected from this product. Symptoms/injuries after eye contact : Adverse effects not expected from this product.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous : Not known.

administration
Chronic symptoms

: Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to

organs (CNS) through prolonged or repeated exposure (Inhalation).

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen. Obtain medical attention if breathing difficulty persists.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire

and increasing risk of burns and injuries.

Reactivity : None under recommended storage and handling conditions (see section 7).

08/19/2014 EN (English US) 2/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Advice for firefighters

Firefighting instructions

: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or

fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire Protection during firefighting fighters. Do not enter fire area without proper protective equipment, including respiratory

protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment

: Wear protective equipment consistent with the site emergency plan.

Emergency procedures

: Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.2. For emergency responders

Protective equipment

Emergency procedures

: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.

: Evacuate and limit access. Ventilate area.

Environmental precautions

Try to stop release if safe to do so.

Methods and material for containment and cleaning up

For containment

: Try to stop release if safe to do so.

Methods for cleaning up

: Dispose of this material and its container in accordance with local regulations.

Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

Precautions for safe handling

Additional hazards when processed

: Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Use only outdoors or

in a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures

: Comply with applicable regulations.

Storage conditions

Do not expose to temperatures exceeding 52°C (125°F). Keep container closed when not in use. Protect cylinder from physical damage. Store in well ventilated area.

Incompatible products None known. Incompatible materials : None known.

Specific end use(s)

Test gas/Calibration gas.

SECTION 8: Exposure controls/personal protection

Control parameters

Carbon monoxide (630-08-0)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	55 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm

Nitrogen (7727-37-9)

Carbon dioxide (124-38-9)

08/19/2014 EN (English US) 3/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	9000 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

Propane (74-98-6)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1800 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Exposure controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits. Oxygen detectors should be used when asphyxiating gases may be released. Alarm detectors should be used when toxic gases may be released. Consider work permit system e.g. for maintenance

Hand protection

Eye protection

Skin and body protection Respiratory protection

Thermal hazard protection

Environmental exposure controls

activities. : Wear working gloves when handling gas containers. 29CFR 1910.138: Hand Protection.

Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.

Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing. None necessary during normal and routine operations. None necessary during normal and routine operations.

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for

specific methods for waste gas treatment.

Other information : Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

EN (English US) 08/19/2014 4/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Clear, colorless gas.

Molecular mass : Not applicable for gas-mixtures.

Color : Colorless
Odor : odorless

Odor threshold : No data available

pH : Not applicable for gas-mixtures.

Relative evaporation rate (butyl acetate=1) : No data available

Relative evaporation rate (ether=1) : Not applicable for gas-mixtures.

Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available

Flammability (solid, gas) : Not flammable - not combustible

Vapor pressure : Not applicable.

Relative vapor density at 20 °C : No data available

Relative density : No data available

Relative gas density : Heavier than air.

Solubility : Water: Solubility in water of component(s) of the mixture :

•: Insoluble •: 20 mg/l •: 2000 mg/l •: 75 mg/l

Log Pow : Not applicable for gas-mixtures.
Log Kow : Not applicable for gas-mixtures.

Viscosity, kinematic : Not applicable.
Viscosity, dynamic : Not applicable.

Explosive properties : Not applicable - not flammable.

Oxidizing properties : None.

Explosive limits : Not applicable - not flammable

9.2. Other information

Additional information : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground

level. None.

SECTION 10: Stability and reactivity

10.1. Reactivity

None under recommended storage and handling conditions (see section 7).

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Under normal conditions of storage and use hazardous decomposition products should not be produced.

08/19/2014 EN (English US) 5/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity	: Not classified
Carbon monoxide (630-08-0)	
LC50 inhalation rat (ppm)	1880 ppm/4h
ATE US (gases)	1880.00000000 ppmV/4h
Nitrogen (7727-37-9)	
LC50 inhalation rat (ppm)	410000 ppm/4h
Propane (74-98-6)	
LC50 inhalation rat (mg/l)	658 mg/l/4h
LC50 inhalation rat (ppm)	410000 ppm/4h
ATE US (gases)	410000.00000000 ppmV/4h
ATE US (vapors)	658.00000000 mg/l/4h
ATE US (dust, mist)	658.00000000 mg/l/4h
Skin corrosion/irritation	: Not classified
	pH: Not applicable for gas-mixtures.
Serious eye damage/irritation	: Not classified
	pH: Not applicable for gas-mixtures.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child (Inhalation).
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Causes damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation).
	No known effects from this product.
Aspiration hazard	: Not classified
	Not applicable for gases and gas-mixtures.
Symptoms/injuries after inhalation	: Asphyxiating even with adequate oxygen. May increase respiration and heart rate.
Symptoms/injuries after skin contact	: Adverse effects not expected from this product.
Symptoms/injuries after eye contact	: Adverse effects not expected from this product.
Symptoms/injuries after ingestion	: Ingestion is not considered a potential route of exposure.

SECTION 12: Ecological information

Toxicity

Chronic symptoms

administration

Ecology - general : Classification criteria are not met.

: Not known.

Persistence and degradability

Symptoms/injuries upon intravenous

Carbon Monoxide (1.00% - 9.39%), Carbon Dioxide (3.00% - 25.00%) & Propane (0.0001% - 0.50%) in Nitrogen			
Persistence and degradability	No data available.		
Carbon monoxide (630-08-0)			
Persistence and degradability	Will not undergo hydrolysis. Not readily biodegradable. Not applicable for inorganic gases.		
Nitrogen (7727-37-9)			
Persistence and degradability	No ecological damage caused by this product.		

: Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to

organs (CNS) through prolonged or repeated exposure (Inhalation).

08/19/2014 EN (English US) 6/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Carbon dioxide (124-38-9)		
Persistence and degradability	No ecological damage caused by this product.	
Propane (74-98-6)		
Persistence and degradability	The substance is biodegradable. Unlikely to persist.	
12.3. Bioaccumulative potential		
•	oxide (3.00% - 25.00%) & Propane (0.0001% - 0.50%) in Nitrogen	
Log Pow	Not applicable for gas-mixtures.	
Log Kow	Not applicable for gas-mixtures.	
Bioaccumulative potential	No data available.	
Carbon monoxide (630-08-0)		
Log Pow	1.78	
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.	
Nitrogen (7727-37-9)		
Log Pow	Not applicable for inorganic gases.	
Bioaccumulative potential	No ecological damage caused by this product.	
Carbon dioxide (124-38-9)		
BCF fish 1	(no bioaccumulation)	
Log Pow	0.83	
Bioaccumulative potential	No ecological damage caused by this product.	
Propane (74-98-6)	0.26	
Log Pow	2.36 Not expected to biogeographic due to the levy leg Kow (leg Kow 41). Refer to cogtion 0	
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.	
12.4. Mobility in soil		
Carbon Monoxide (1.00% - 9.39%), Carbon Did	oxide (3.00% - 25.00%) & Propane (0.0001% - 0.50%) in Nitrogen	
Mobility in soil	No data available.	
Carbon monoxide (630-08-0)		
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.	
Nitrogen (7727-37-9)		
Ecology - soil	No ecological damage caused by this product.	
Carbon dioxide (124-38-9)		
Ecology - soil	No ecological damage caused by this product.	
Propane (74-98-6)		
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.	
	5 ,,	
12.5. Other adverse effects		
Effect on ozone layer	None.	
Effect on the global warming	Contains grouphouse gas(as) not covered by 942/2006/EC	
Effect on the global warming	Contains greenhouse gas(es) not covered by 842/2006/EC.	
SECTION 13: Disposal considerations		

SECTION 13: Disposal considerations

13.1. Waste t	reatment methods
---------------	------------------

Waste disposal recommendations

Waste treatment methods

: Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Must not be discharged to atmosphere. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Ensure that the emission levels from local regulations or operating permits are not exceeded. Waste gas should be flared through a suitable burner with flash back arrestor.

 Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for more guidance on suitable disposal methods.

08/19/2014 EN (English US) 7/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s., 2.2

UN-No.(DOT) : 1956 DOT NA no. : UN1956

DOT Proper Shipping Name : Compressed gas, n.o.s.

Department of Transportation (DOT) Hazard

Classes

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305
DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
DOT Quantity Limitations Passenger aircraft/rail : 75 kg

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg

CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel.

Additional information

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment.

Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. -

Ensure valve protection device (where provided) is correctly fitted.

: 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

ADR

Transport document description :

Transport by sea

UN-No. (IMDG) : 1956

Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.

Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

Air transport

UN-No.(IATA) : 1956

Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.

Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

Carbon monoxide (630-08-0)

Listed on the Canadian DSL (Domestic Sustances List)

08/19/2014 EN (English US) 8/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Carbon monoxide (630-08-0)			
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects		
Nitrogen (7727-37-9)			
Listed on the Canadian DSL (Domestic Sustances List)			
WHMIS Classification	Class A - Compressed Gas		
Carbon dioxide (124-38-9)			
Listed on the Canadian DSL (Domestic Sustances List)			
WHMIS Classification	Class A - Compressed Gas		
Propane (74-98-6)			
Listed on the Canadian DSL (Domestic Sustances List)			
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas		

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC or 1999/45/EC

15.2.2. National regulations

No additional information available

15.3. US State regulations

Carbon monoxide (630-08-0	0)			
U.S California -	U.S California -	U.S California - Proposition	U.S California -	No significance risk level
Proposition 65 -	Proposition 65 -	65 - Reproductive Toxicity -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Female	Reproductive Toxicity - Male	
	Yes			

Carbon monoxide (630-08-0)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) List

Nitrogen (7727-37-9)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

Carbon dioxide (124-38-9)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

Propane (74-98-6)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

08/19/2014 EN (English US) 9/10

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16: Other information

Indication of changes : Revised safety data sheet in accordance with OSHA final rule on GHS implementation

promulgated March 26, 2012.

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29

CFR, 1910.1200. Other government regulations must be reviewed for applicability to this

roduct.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3	
Compressed gas	Gases under pressure Compressed gas	
Flam. Gas 1	Flammable gases Category 1	
Liquefied gas	Gases under pressure Liquefied gas	
Repr. 1A	Reproductive toxicity Category 1A	
Simple Asphy	Simple Asphyxiant	
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1	
H220	Extremely flammable gas	
H280	Contains gas under pressure; may explode if heated	
H331	Toxic if inhaled	
H360	May damage fertility or the unborn child	
H372	Causes damage to organs through prolonged or repeated exposure	
H380	May displace oxygen and cause rapid suffocation	

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation'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 product 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.

08/19/2014 EN (English US) 10/10