

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

1 Identification**Product Identifier****Trade Name: Precision Calibration Gas Mixture****Product Number:** G-1315**Relevant identified uses of the substance or mixture and uses advised against:**

Used for calibration of gas measuring devices. Not suitable for human consumption.

Product Description:

Calibration gas mixture consisting of Carbon Monoxide, Hydrogen Sulfide, Methane, Oxygen and Nitrogen.

Application of the substance / the mixture: Pressurized gas, requires appropriate regulator to dispense.**Details of the Supplier of the Safety Data Sheet:****Manufacturer/Supplier:**

Gasco Affiliates, LLC

320 Scarlett Blvd.

Oldsmar, FL 34677

TELEPHONE NUMBER: (800) 910-0051

FAX NUMBER: (866) 755-8920

E-MAIL: info@gascogas.com

Emergency telephone number:

Inside the US: 1-833-723-3267 (CHEMTREC, 24 hours)

Outside the US: 1-703-527-3887 (CHEMTREC, 24 hours)

2 Hazard(s) Identification**Classification of the substance or mixture:**

Gas cylinder

Press. Gas

H280 Contains gas under pressure; may explode if heated.



Acute Tox. 4

H332 Harmful if inhaled.

Simple Asphyxiant

May displace oxygen and cause rapid suffocation.

Label elements:**Hazard pictograms:****Signal word:** Warning**Hazard-determining components of labeling:**

Carbon Monoxide

Hazard statements:

H280 Contains gas under pressure; may explode if heated.

H332 Harmful if inhaled.

May displace oxygen and cause rapid suffocation.

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

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

(Contd. on page 2)

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OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P410+P403 Protect from sunlight. Store in a well-ventilated place.

· **Unknown acute toxicity:**

99.5 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	1	Fire = 1
REACTIVITY	0	Physical Hazard = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

· **Chemical characterization: Substance**

· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

CAS: 7727-37-9 RTECS: QW 9700000	Nitrogen ⚠ Press. Gas, H280; Simple Asphyxiant	75.3901 - 91.799%
CAS: 7782-44-7	Oxygen ⚠ Oxid. Gas 1, H270; ⚠ Press. Gas, H280	8 - 21%
CAS: 74-82-8 RTECS: PA 1490000	Methane ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280; Simple Asphyxiant	0.1 - 3.0%
CAS: 630-08-0 RTECS: FG 3500000	Carbon Monoxide ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280; ⚠ Acute Tox. 3, H331; ⚠ Repr. 1A, H360; STOT RE 1, H372	0.0005-0.15%
CAS: 7783-06-4	Hydrogen Sulfide ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280; ⚠ Acute Tox. 2, H330; ⚠ Aquatic Acute 1, H400	0.0005 - 0.01%

* 4 First-Aid Measures

· **Description of first aid measures**

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in the side position for transportation.

· **After skin contact:** Generally, the product does not irritate the skin.

· **After eye contact:** Not anticipated under normal use.

· **After swallowing:** Not a normal route of entry.

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

(Contd. on page 3)

Safety Data Sheet (SDS)

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Issue date 03/28/2021

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5 Fire-Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:**
If incinerated, product will release the following toxic fumes: Oxides of Carbon, Nitrogen (NOx) and Sulfur.
- **Advice for firefighters**
This gas mixture is not flammable; however, containers, when involved in fire, may rupture or burst in the heat of the fire. Firefighters should be aware of the presence of Hydrogen Sulfide in this gas mixture, which can cause significant health effects.
- **Special protective equipment for firefighters:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**
Ensure adequate ventilation.
Keep people at a distance and stay upwind.
- **Environmental precautions:** Inform authorities in case of gas release.
- **Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms due to the potential for oxygen deficiency (simple asphyxiation). Do not attempt to adjust, repair or in any other way modify the cylinders containing this gas mixture. If there is a malfunction or another type of operational problem, contact nearest distributor immediately.
- **Information about protection against explosions and fires:**
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
Keep protective respiratory device available.
Do not spray on a naked flame or any incandescent material.
- **Conditions for safe storage, including any incompatibilities**
Store away from strong oxidizing agents, strong bases, phosphorous, organic materials and powdered metals.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Cylinders should be firmly secured to prevent falling or being knocked over. Cylinders must be protected from the environment, and preferably kept at room temperature. Cylinders should be stored in dry, well-ventilated areas, away from sources of heat, ignition, and direct sunlight. Protect cylinders against physical damage. Full and empty cylinders should be segregated. Use a "first-in, first-out" inventory system to prevent full containers

(Contd. on page 4)

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OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

from being stored for long periods of time.

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s):** No further relevant information available.

* 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.

· Control parameters:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

· Components with occupational exposure limits:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituents have no known exposure limits.

7727-37-9 Nitrogen

TLV | withdrawn TLV, see App. F; simple asphyxiant

74-82-8 Methane

TLV | refer to Appendix F, 1000ppm

630-08-0 Carbon Monoxide

PEL | Long-term value: 55 mg/m³, 50 ppm

REL | Long-term value: 40 mg/m³, 35 ppm
Ceiling limit value: 229 mg/m³, 200 ppm

TLV | Long-term value: 29 mg/m³, 25 ppm
BEI

7783-06-4 Hydrogen Sulfide

PEL | Ceiling limit value: 20; 50* ppm
*10-min peak; once per 8-hr shift

REL | Ceiling limit value: 15* mg/m³, 10* ppm
*10-min

TLV | Short-term value: 7 mg/m³, 5 ppm
Long-term value: 1.4 mg/m³, 1 ppm

- **Ingredients with biological limit values:**

630-08-0 Carbon Monoxide

BEI | 3.5 % of hemoglobin
blood
end of shift
Carboxyhemoglobin (background, nonspecific)

20 ppm
end-exhaled air
end of shift
Carbon monoxide (background, nonspecific)

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· Exposure controls:

· Personal protective equipment

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

(Contd. on page 5)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

· **Breathing equipment:**



Suitable respiratory protective device recommended.

- **Protection of hands:** Not required.
- **Material of gloves:** Not applicable.
- **Penetration time of glove material:** Not applicable.

* 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Gaseous
 Color: Clear, colorless

· **Odor:** Rotten

· **Odor threshold:** Not determined.

· **pH-value:** Not available

· **Change in condition**

Melting point/Melting range: Not determined.

· **Flash point:** None

· **Flammability (solid, gaseous):** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: Not determined.
 Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density:**

Relative density: Not determined.
 Vapor density: Not determined.
 Evaporation rate: Not applicable.

· **Solubility in / Miscibility with:**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.
 Kinematic: Not determined.

· **Solvent content:**

Organic solvents: 0.0 %

(Contd. on page 6)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:**
Strong oxidizing agents, strong bases, phosphorous, organic materials and powdered metals.
- **Hazardous decomposition products:** Oxides of Carbon, Nitrogen (NOx) and Sulfur.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

630-08-0 Carbon Monoxide

Inhalative	LC50/4 h	7520 mg/l (Rat)
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7783-06-4 Hydrogen Sulfide

Inhalative	LC50/4 h	634 mg/l (Mouse)
		444 mg/l (Rat)
	LC50/96 hours	0.016 mg/l (Pimephales)

74-82-8 Methane

Inhalative	LC50/4 h	217 mg/l (Mouse)
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- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
- **Carcinogenic categories:**
- **IARC (International Agency for Research on Cancer):**
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**
Release all residual gas pressure in a well ventilated area. Verify the cylinder is completely empty (0 PSIG). Remove or cover any hazard labels. Return empty supplier for recycling.
NOTE: Check with the local waste authority before placing any gas cylinder into a waste container for pickup. GASCO encourages the consumer to return all cylinders.
- **Waste disposal key:** The U.S. EPA has not published waste numbers for this product's components.
- **Uncleaned packaging**
- **Recommendation:** Return cylinder and unused product to supplier.

*14 Transport Information

- **UN-Number:** UN1956
- **DOT, ADR/ADN, IMDG, IATA** UN1956
- **UN proper shipping name:**
- **DOT** Compressed gas, n.o.s.
- **ADR/ADN** UN1956 Compressed gas, n.o.s.
- **IMDG, IATA** UN1956 COMPRESSED GAS, N.O.S.
- **Transport hazard class(es):**

- **DOT**



- **Class:** 2.2
- **Label:** 2.2

- **ADR/ADN**



- **Class:** 2.2 1A
- **Label:** 2.2

(Contd. on page 8)

Safety Data Sheet (SDS)

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Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture· **IMDG, IATA**

- **Class:** 2.2
- **Label:** 2.2
- **Packing group:** -
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Hazard identification number (Kemler code):** 20
- **EMS Number:** F-C,S-V
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations:** On passenger aircraft/rail: 75 kg
On cargo aircraft only: 150 kg

- **ADR/ADN**
- **Excepted quantities (EQ):** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **UN "Model Regulation":** UN1956, Compressed gas, n.o.s., 2.2

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.
- **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**

7783-06-4 Hydrogen Sulfide

· **Section 313 (Specific toxic chemical listings):**

7783-06-4 Hydrogen Sulfide

· **TSCA (Toxic Substances Control Act):**

7727-37-9 Nitrogen

7782-44-7 Oxygen

74-82-8 Methane

630-08-0 Carbon Monoxide

7783-06-4 Hydrogen Sulfide

· **California Proposition 65:**· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

(Contd. on page 9)


Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

· Chemicals known to cause developmental toxicity:		
630-08-0	Carbon Monoxide	
· New Jersey Right-to-Know List:		
All ingredients are listed.		
· New Jersey Special Hazardous Substance List:		
74-82-8	Methane	F4
630-08-0	Carbon Monoxide	TE, F4
7783-06-4	Hydrogen Sulfide	F4
· Pennsylvania Right-to-Know List:		
All ingredients are listed.		
· Pennsylvania Special Hazardous Substance List:		
630-08-0	Carbon Monoxide	E
7783-06-4	Hydrogen Sulfide	E
· Carcinogenic categories:		
· EPA (Environmental Protection Agency):		
7783-06-4	Hydrogen Sulfide	I
· TLV (Threshold Limit Value established by ACGIH):		
None of the ingredients are listed.		
· NIOSH-Ca (National Institute for Occupational Safety and Health):		
None of the ingredients are listed.		
· GHS label elements		
The product is classified and labeled according to the Globally Harmonized System (GHS).		
· Hazard pictograms:		
		
· Signal word: Warning		
· Hazard-determining components of labeling:		
Carbon Monoxide		
· Hazard statements:		
H280 Contains gas under pressure; may explode if heated.		
H332 Harmful if inhaled.		
May displace oxygen and cause rapid suffocation.		
· Precautionary statements:		
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.	
P271	Use only outdoors or in a well-ventilated area.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
P312	Call a poison center/doctor if you feel unwell.	
P410+P403	Protect from sunlight. Store in a well-ventilated place.	
· National regulations:		
None of the ingredients are listed.		
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.		

(Contd. on page 10)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 03/28/2021

Reviewed on 03/28/2021

Trade Name: Precision Calibration Gas Mixture

16 Other Information

· **Relevant phrases:**

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· **Contact:**

· **Date of last revision/ revision number:** 03/28/2021 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety and Health
 OSHA: Occupational Safety & Health Administration
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 BEI: Biological Exposure Limit
 Flam. Gas 1: Flammable gases – Category 1
 Oxid. Gas 1: Oxidizing gases – Category 1
 Press. Gas: Gases under pressure – Compressed gas
 Press. Gas: Gases under pressure – Dissolved gas
 Acute Tox. 2: Acute toxicity – Category 2
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Repr. 1A: Reproductive toxicity – Category 1A
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· *** Data compared to the previous version altered.**

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