

Safety Data Sheet (SDS)

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

Issue date 06/11/2015

Reviewed on 06/11/2015

· **Product identifier** **Clemco Part #25573 & #22865**

· **Trade name:** Precision Calibration Gas Mixture

· **Product number:** G-2015

· **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, Oxygen and Nitrogen.

· **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: 1-800-424-9300 (CHEMTREC, 24 hours)

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

· **Classification of the substance or mixture**



GHS04 Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

Simple Asphyxiant May displace oxygen and cause rapid suffocation.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS04 GHS06 GHS08

· **Signal word** Danger

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Trade name: Precision Calibration Gas Mixture**Hazard-determining components of labeling:**

Nitrogen
Carbon Monoxide
Oxygen

Hazard statements

Contains gas under pressure; may explode if heated.
Toxic if inhaled.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
May displace oxygen and cause rapid suffocation.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves / eye protection / face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
Call a poison center/doctor.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Store locked up.
Protect from sunlight.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Unknown acute toxicity:

100 percent of the mixture consists of ingredient(s) of unknown toxicity.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 1
Reactivity = 0

The substance possesses oxidizing properties.

HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = *2
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

Hazard(s) not otherwise classified (HNOC): None known**Chemical characterization: Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

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Dangerous Components:		
CAS: 7727-37-9 RTECS: QW 9700000	Nitrogen ◊ Press. Gas, H280; Simple Asphyxiant	2 - 98.99995%
CAS: 7782-44-7	Oxygen ◊ Oxid. Gas 1, H270; ◊ Press. Gas, H280	1 - 93%
CAS: 630-08-0 RTECS: FG 3500000	Carbon Monoxide ⚠ Flam. Gas 1, H220; ◊ Acute Tox. 3, H331; ⚠ Repr. 1A, H360; STOT RE 1, H372; Press. Gas, H280	0.00005 - 5%

Description of first aid measures**After inhalation:**

Get medical attention immediately. Move person to fresh air. If it is expected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
In case of unconsciousness, place patient securely on side position for transportation.

After skin contact:

Generally the product does not irritate the skin.

In cases of contact with liquified material, frostbite may occur. Immerse frostbite in cool-warm water and seek medical attention.

After eye contact:

Not anticipated under normal use.

If irritation occurs thoroughly wash the exposed area and discontinue use. Seek medical attention if any adverse effect occurs.

After swallowing: If swallowed and symptoms occur, consult a doctor.**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.

Extinguishing media**Suitable extinguishing agents:**

Use fire fighting measures that suit the environment.

Use water spray to cool fire-exposed containers.

Special hazards arising from the substance or mixture

Closed containers may explode when exposed to extreme heat.

If incinerated, product will release the following toxic fumes: Oxides of Carbon and Nitrogen (NOx).

Advice for firefighters

Certain variations of this gas mixture may contain high concentrations of Oxygen which acts as an oxidizer and may intensify any fires.

Protective equipment:

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.

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

Treat any fumes as toxic.

Keep people at a distance and stay upwind.

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- **Environmental precautions:** Inform authorities in case of gas release.

- **Methods and material for containment and cleaning up:**

Dispose 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.

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- **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 cut, grind or weld on container that contains or contained product.

Do not spray on a naked flame or any incandescent material.

- **Conditions for safe storage, including any incompatibilities**

Store away from strong oxidizing agents, phosphorous, organic materials, Alkali metals, metal oxides 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-on, first-out" inventory system to prevent full containers 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.

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- **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 mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

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Components with occupational exposure limits:	
7727-37-9 Nitrogen	
TLV	withdrawn TLV, see App. F; simple asphyxiant
630-08-0 Carbon Monoxide	
PEL	Long-term value: 55 mg/m ³ , 50 ppm
REL	Long-term value: 40 mg/m ³ , 35 ppm Ceiling limit value: 229 mg/m ³ , 200 ppm
TLV	Long-term value: 29 mg/m ³ , 25 ppm BEI

· **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.

Wash hands before breaks and at the end of work.

· **Breathing equipment:**



Suitable respiratory protective device recommended.

· **Protection of hands:** Not required.

· **Eye protection:** Not necessary under normal conditions.

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

· **General Information**

· **Appearance:**

Form: Gaseous

Color: Clear, colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Not determined.

Boiling point/Boiling range: -195 °C (-319 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

· **Ignition temperature:**

Decomposition temperature: Not determined.

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

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

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

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- **Vapor pressure:** Not determined.
- **Density @ 20 °C (68 °F):** 0.001 g/cm³ (0.008 lbs/gal)
- **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 %
- **Other information** No further relevant information available.

- **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, phosphorous, organic materials, Alkali metals, metal oxides and powdered metals.
- **Hazardous decomposition products:** Carbon Oxides and Nitrogen Oxides (NOx).

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)

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.

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· NTP (National Toxicology Program)
None of the ingredients are listed.
· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

- **Toxicity** The hazards for the aquatic environment are unknown.
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **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.

- **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 cylinder for recycling.
NOTE: Check with the local waste authority before placing any gas cylinder into waste container for pickup. GASCO encourages the consumer to return all cylinders.
- **Waste disposal key:**
The U.S. EPA has not published waste disposal numbers for this product's components.
- **Uncleaned packagings:**
- **Recommendation:** Return cylinder and unused product to supplier.

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN3156
- **UN proper shipping name**
- **DOT** Compressed gas, oxidizing, n.o.s.
- **ADR** UN3156 Compressed gas, oxidizing, n.o.s.
- **IMDG, IATA** COMPRESSED GAS, OXIDIZING, N.O.S.
- **Transport hazard class(es)**

- **DOT**



- **Class** 2.2

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Trade name: Precision Calibration Gas Mixture· **Label** 2.2, 5.1· **ADR**

2

5.1

· **Class** 2 10 Gases· **Label** 2.2+5.1· **IMDG**

2

5.1

· **Class** 2 Gases· **Label** 2.2/5.1· **IATA**

2

5.1

· **Class** 2 Gases· **Label** 2.2 (5.1)· **Packing group**· **DOT, ADR, IMDG, IATA** Non-Regulated Material· **Environmental hazards:** Not applicable.· **Special precautions for user** Warning: Gases· **Danger code (Kemler):** 25· **EMS Number:** F-C,S-W· **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**· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity· **IMDG**· **Limited quantities (LQ)** 0· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity· **UN "Model Regulation":** UN3156, Compressed gas, oxidizing, n.o.s., 2.2 (5.1)

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- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· Section 355 (extremely hazardous substances):
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None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):
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None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· California Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:
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None of the ingredients are listed.

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

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)
--

None of the ingredients are listed.

· 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).
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· Hazard pictograms



GHS04

GHS06

GHS08

· Signal word Danger

· Hazard-determining components of labeling:

Nitrogen

Carbon Monoxide

Oxygen

· Hazard statements

Contains gas under pressure; may explode if heated.

Toxic if inhaled.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

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Trade name: Precision Calibration Gas Mixture

May displace oxygen and cause rapid suffocation.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

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

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

Wash thoroughly after handling.

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

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

Call a poison center/doctor.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Store locked up.

Protect from sunlight.

Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

State Right to Know

CAS: 7782-44-7	Oxygen ⚠ Oxid. Gas 1, H270; ⚠ Press. Gas, H280	1 - 93%
CAS: 7727-37-9 RTECS: QW 9700000	Nitrogen ⚠ Press. Gas, H280; Simple Asphyxiant	2 - 98.99995%
CAS: 630-08-0 RTECS: FG 3500000	Carbon Monoxide ⚠ Flam. Gas 1, H220; ⚠ Acute Tox. 3, H331; ⚠ Repr. 1A, H360; STOT RE 1, H372; Press. Gas, H280	0.00005 - 5%
All ingredients are listed.		

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Relevant phrases

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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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

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LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Gas 1: Flammable gases, Hazard Category 1

Oxid. Gas 1: Oxidising Gases, Hazard Category 1

Press. Gas: Gases under pressure: Compressed gas

Acute Tox. 3: Acute toxicity, Hazard Category 3

Repr. 1A: Reproductive toxicity, Hazard Category 1A

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106