

## Safety Data Sheet (SDS)

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

Issue date 06/25/2015

Reviewed on 06/25/2015

### \* 1 Identification

· **Product identifier**

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

· **Product number:** G-3915

· **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 Hydrogen Cyanide 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)

### \* 2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS04 Gas cylinder

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



GHS07

Acute Tox. 4            H312 Harmful in contact with skin.

Acute Tox. 4            H332 Harmful if inhaled.

Skin Irrit. 2            H315 Causes skin irritation.

Eye Irrit. 2B            H320 Causes eye irritation.

Simple Asphyxiant            May displace oxygen and cause rapid suffocation.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS04    GHS07

· **Signal word** Warning

· **Hazard statements**

Contains gas under pressure; may explode if heated.

Harmful in contact with skin or if inhaled.

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Causes skin and eye irritation.

May displace oxygen and cause rapid suffocation.

**Precautionary statements**

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

Use only outdoors or in a well-ventilated area.

Wear protective gloves.

Wear protective gloves / protective clothing.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

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

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

Call a poison center/doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Protect from sunlight. Store in a well-ventilated place.

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)****HMS-ratings (scale 0 - 4)**

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

**Hazard(s) not otherwise classified (HNOC):** None known**\* 3 Composition/information on ingredients****Chemical characterization: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous Components:**

CAS: 7727-37-9 RTECS: QW 9700000	Nitrogen ⚠ Press. Gas, H280; Simple Asphyxiant	99.98 - 99.9999%
CAS: 74-90-8 RTECS: MW 6825000	Hydrogen Cyanide ⚠ Flam. Liq. 1, H224; ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0001 - 0.02%

**\* 4 First-aid measures****Description of first aid measures****General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **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:**

Immediately wash skin with soap and plenty of water for at least 20 minutes.

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

If skin irritation occurs, consult a doctor.

- **After eye contact:**

Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

- **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.

### \* 5 Fire-fighting measures

- **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 Nitrogen (NOx) and Hydrogen Cyanide gas.

- **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.

- **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.

### \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep people at a distance and stay upwind.

Treat any fumes as toxic.

- **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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### \* 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.

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 acids, strong bases, strong oxidizing agents and amines.

- **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.

### \* 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 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:**

**7727-37-9 Nitrogen**

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

**74-90-8 Hydrogen Cyanide**

PEL | Long-term value: 11 mg/m<sup>3</sup>, 10 ppm  
Skin

REL | Short-term value: 5 mg/m<sup>3</sup>, 4.7 ppm  
Skin

TLV | Ceiling limit value: 5 mg/m<sup>3</sup>, 4.7 ppm  
as CN; Skin

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

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- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Breathing equipment:**



Suitable respiratory protective device recommended.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**



Protective work clothing

### \* 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:**

Gaseous

**Color:**

Clear, colorless

- **Odor:**

Bitter almonds

- **Odor threshold:**

Not determined.

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- **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Not determined.
  - **Boiling point/Boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Product is not flammable.
- **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.
- **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 %
- **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 acids, strong bases, strong oxidizing agents and amines.
- **Hazardous decomposition products:** Nitrogen Oxides (NOx) and Hydrogen Cyanide gas.

**\* 11 Toxicological information**

- **Information on toxicological effects** The toxicity of this product is unknown.
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

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Causes serious eye irritation.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful  
Irritant· **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** 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:** Not known to be hazardous to 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 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.

\* **14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1956

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**Trade name: Precision Calibration Gas Mixture**

- **UN proper shipping name**
- **DOT**
- **ADR**
- **IMDG, IATA**
- **Transport hazard class(es)**

Compressed gas, n.o.s.  
 UN1956 Compressed gas, n.o.s.  
 COMPRESSED GAS, N.O.S.

- **DOT**



- **Class**
- **Label**

2.2  
 2.2

- **ADR**



- **Class**
- **Label**

2.2 1A  
 2.2

- **IMDG, IATA**



- **Class**
- **Label**
- **Packing group**
- **DOT, ADR, IMDG, IATA**
- **Environmental hazards:**
- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
- **Transport/Additional information:**

2.2  
 2.2  
 Non-Regulated Material  
 Not applicable.  
 Not applicable.  
 20  
 F-C,S-V  
 Not applicable.

- **DOT**
- **Quantity limitations**

On passenger aircraft/rail: 75 kg  
 On cargo aircraft only: 150 kg

- **ADR**
- **Excepted quantities (EQ)**

Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

- **IMDG**
- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

120 ml  
 Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

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

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

74-90-8 Hydrogen Cyanide

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

74-90-8 Hydrogen Cyanide

· **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:**

None of the ingredients are listed.

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

74-90-8 Hydrogen Cyanide

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

74-90-8 Hydrogen Cyanide

II

· **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 substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS04 GHS07

· **Signal word** Warning· **Hazard statements**

Contains gas under pressure; may explode if heated.

Harmful in contact with skin or if inhaled.

Causes skin and eye irritation.

May displace oxygen and cause rapid suffocation.

· **Precautionary statements**

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

Use only outdoors or in a well-ventilated area.

Wear protective gloves.

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Wear protective gloves / protective clothing.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

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

Call a poison center/doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Protect from sunlight. Store in a well-ventilated place.

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: 7727-37-9 RTECS: QW 9700000	Nitrogen ⚠ Press. Gas, H280; Simple Asphyxiant	99.98 - 99.9999%
CAS: 74-90-8 RTECS: MW 6825000	Hydrogen Cyanide ⚠ Flam. Liq. 1, H224; ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0001 - 0.02%

All ingredients are listed.

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

\* **16 Other information**

· **Relevant phrases**

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· **Date of preparation / last revision** 06/25/2015 / -

· **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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Press. Gas: Gases under pressure: Compressed gas

Flam. Liq. 1: Flammable liquids, Hazard Category 1

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 1: Acute toxicity, Hazard Category 1

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

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Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

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

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