



ACCORDING TO US CFR 1910.1200

1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	CALIBRATING GAS MIX.
CAS No.	Mixture.
EC No.	Mixture.

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

Identified Use(s)	Industrial gas.
Uses Advised Against	Not known.

1.3 Details of the supplier of the safety data sheet

Company Identification	Hudson Technologies Company
Address	PO Box 141 One Blue Hill Plaza Pearl River, New York USA
Postal code	10965
Telephone	+1 (800) 953-2244
Fax	+1 (845) 512-6070
E-mail	information@hudsontech.com

1.4 Emergency telephone number

Company	+1 (800) 501-4376
CHEMTREC (U.S.)	+1-800-424-9300
INTERNATIONAL	+1-703-527-3887

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

US CFR 1910.1200	Press. Gas; Compressed gas: Contains gas under pressure; may explode if heated.
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2.2 Label elements

Product Name CALIBRATING GAS MIX.

Hazard Pictogram(s)



GHS04

Signal Word(s) Warning.

Hazard Statement(s) H280: Contains gas under pressure; may explode if heated.

Precautionary Statement(s) P202: Do not handle until all safety precautions have been read and understood.
P410+P403: Protect from sunlight. Store in a well-ventilated place.

2.3 Other hazards

May cause asphyxiation when concentrations are sufficient to reduce oxygen below safe breathing levels.

2.4 Additional Information

CGA-PG05: Use a back flow preventive device in the piping.
CGA-PG10: Use only with equipment rated for cylinder pressure.
CGA-PG06: Close valve after each use and when empty.
CGA-PG02: Protect from sunlight when ambient temperature exceeds 52 °C (125 °F).
CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.
This SDS is available in languages other than English.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT(S)	CAS No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Nitrogen	7727-37-9	76-78	Press. Gas, Compressed gas; H280	GHS04
Oxygen	7782-44-7	19.5-21.5	Press. Gas,	GHS04



6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area. Ensure adequate ventilation. Avoid breathing gas.
Wear suitable respiratory protection.

6.2 Environmental precautions

Do not release large quantities into the surface water or into drains.

6.3 Methods and material for containment and cleaning up

Stop leak if safe to do so. Allow small spillages to evaporate
provided there is adequate ventilation.

6.4 Reference to other sections

See Also Section 8, 13.

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide adequate ventilation. Avoid breathing gas. Wear suitable respiratory protection. Do not drag, roll, slide or drop cylinders. Use a suitable hand truck design for cylinder movement. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object into valve cap openings. Doing so may damage valve causing a leak to occur. Secure cylinders in an upright position at all times, close all valves when not in use. Keep closed even when empty. Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

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

Storage temperature

< 125 °F (52°C).

Storage life

Stable under normal conditions.

Incompatible materials

None.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits None assigned.

8.2 Exposure controls

Appropriate engineering controls Ensure adequate ventilation.

Personal protection equipment



Eye Protection

Wear suitable eye/face protection.



Skin protection

Wear suitable gloves.



Respiratory protection

Wear suitable respiratory protective equipment if exposure to high levels of material is likely.

Thermal hazards

Not applicable.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

The following information is based on the principal component: Nitrogen (CAS No.: 7727-37-9).

9.1 Information on basic physical and chemical properties

Appearance	Gas.
	Color: Colorless.
Odor	Odorless.
Odor threshold	Not established.
pH	Not applicable.
Melting point/freezing point	-410°F (-210°C)
Initial boiling point and boiling range	-384.4°F (-195.8°C)
Flash Point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Non-flammable.
Upper/lower flammability or explosive limits	Not applicable.
Vapor pressure	Not available.
Vapor density	1.16 kg/m ³ @ 70°F (21.1°C)
Density	1.25 g/l
Relative density	0.97 @ 70°F (21.1°C) (Air = 1)
Solubility(ies)	Solubility (Water): Slightly soluble (20 mg/l) Solubility (Other): Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not applicable.

Decomposition Temperature (°C)	Not available.
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
9.2 Other information	
Molecular weight	28.01 g/mol

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

10.4 Conditions to avoid

Keep away from heat and direct sunlight.

10.5 Incompatible materials

None.

10.6 Hazardous decomposition product(s)

No hazardous decomposition products known.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Low acute toxicity.
Acute toxicity - Skin Contact	Low acute toxicity.
Acute toxicity - Inhalation	Low acute toxicity.
Skin corrosion/irritation	Non-irritant.
Serious eye damage/irritation	Non-irritant.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	There is no evidence of mutagenic potential.
Carcinogenicity	No evidence of carcinogenicity.



Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	None anticipated.
STOT - repeated exposure	None anticipated.
Aspiration hazard	Not classified.
11.2 Other information	None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.
Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment	Not classified.
Compartment	
Toxicity - Terrestrial	Not classified.
Compartment	

12.2 Persistence and Degradation

No adverse ecological effects are expected.

12.3 Bioaccumulative potential

No adverse ecological effects are expected.

12.4 Mobility in soil

Not applicable.

12.5 Other adverse effects

None anticipated.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Containers must not be punctured or destroyed by burning, even when empty. Refer to manufacturer/supplier for information on recovery/recycling.

13.2 Additional Information

Disposal should be in accordance with local, state or national

legislation.

14. SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. 1956

14.2 UN proper shipping name

UN proper shipping name COMPRESSED GAS, N.O.S.

14.3 Transport hazard class(es)

ADR/RID Class 2.2
 IMDG Class 2.2
 IMDG EMS Not available

ICAO/IATA

Excepted Quantities E1
 Passenger and Cargo Aircraft Forbidden for transport by air.

Limited Quantities Packing

Instructions

Passenger and Cargo Aircraft Forbidden for transport by air.
 Limited Quantities Max net Qty

Passenger and Cargo Aircraft 200

Max net Qty

Passenger and Cargo Aircraft 75Kg

Max net Qty

Cargo Aircraft Packing 200

Instructions

Cargo Aircraft Max net Qty 150Kg

Special Provisions Not applicable.

Emergency Response 2L

Guidebook (ERG) Code

ADR Classification Code 1A

ADR HIN 20

ADR Transport Category 3

Tunnel Restriction Code E

Emergency Action Code 2TE

Advice on Additional Personal Not applicable.

Protection (APP)

14.4 Packing group

Packing group Not applicable.

Labels 2.2



Special Provisions 274 655

Limited Quantities 120 m

Excepted Quantities E1

Mixed Packing Instructions for Packages P200

Special Packing Provisions for Packages Not applicable.

Mixed Packing Instructions for Packages MP9

14.5 Environmental hazards

Environmental hazards Not classified as a Marine Pollutant.

14.6 Special precautions for user

Special precautions for user Not known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Packing Instructions for Portable (M)

Tanks
Special Provisions for Portable Tanks Not applicable.

Tank Code for Tanks CxBN(M)

Special Provisions for Tanks TA4 TT9

Vehicle for Tank Carriage AT
Special Provisions for Carriage - Not applicable.

Packages
Special Provisions for Carriage - Not applicable.

Bulk
Special Provisions for Carriage - CV9 CV10 CV36

Loading, Unloading and Handling
Special Provisions for Carriage - Not applicable.

Operation

15. SECTION 15: REGULATORY INFORMATION

15.1 Federal

Toxic and hazardous substances All chemicals are not listed.



(29 CFR 1910; Subpart Z)

National emission standards for hazardous air pollutants (40 CFR 61.01)

Title III Consolidated List of Lists Hydrogen (CAS No.: 1333-74-0).

TSCA (Toxic Substance Control Act)

15.2 State

State Right to Know Lists

Nitrogen (CAS No.: 7727-37-9)

Listed in: New Jersey, Pennsylvania, Rhode Island, Minnesota.

Oxygen (CAS No. 7782-44-7)

Listed in: New Jersey, Pennsylvania, Rhode Island.

Hydrogen (CAS No.: 1333-74-0)

Listed in: New Jersey, Pennsylvania, Rhode Island, Minnesota.

Proposition 65 (California)

All chemicals are not listed.

CAA 602 - Ozone Depleting Substances (ODS)

All chemicals are not listed.

15.3 Other

OSPAR List of Chemicals for Priority Action

All chemicals are not listed.

NTP (National Toxicology Program)

All chemicals are not listed.

OSHA

All chemicals are not listed.

(List of Highly Hazardous Chemicals, Toxics and Reactives)

IARC (International Agency for Research on Cancer)

All chemicals are not listed.

16. SECTION 16: OTHER INFORMATION

The following sections contain 1-16 revisions or new statements:

NFPA		HMIS	
Health	0	Health	0
Fire	0	Flammability	0
Instability	0	Physical hazards	0

LEGEND:

Hazard Pictogram(s)



GHS04



GHS03



GHS02

Hazard Statement(s)

H220: Extremely flammable gas.
H270: May cause or intensify fire; oxidizer.
H280: Contains gas under pressure; may explode if heated.

Precautionary Statement(s)

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

Additional Information required by Federal Standard 313 Rev. E:

Contract or Solicitation Number: SPE4A6-16-D-0226
Prime Contractor: Hudson Technologies, Inc.
Prime Contractor CAGE: 7DSQ0



SAFETY DATA SHEET

04-Apr-2017

National Stock Number (NSN): 6830012287090

Specification Reference:

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