

SAFETY DATA SHEET (SDS)

GHS and OSHA 29 CFR §1910.1200 (eCFR) compliant

UN1072



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OXYGEN, COMPRESSED O2

Oxygen USP, Aviators Breathing, Oxygen (ABO), Oxygen, (Technical O2),
Calibration Gas High Purity Oxygen

STOODY INDUSTRIAL AND WELDING SUPPLY, INC.

3316 National Ave., San Diego, Ca. 92113

Phone: 619-234-6750

WWW.STOODYIND.COM

PHONE NUMBERS

Product Information: 619-234-6750

24-hour Emergency Response
Professional Emergency Resource Services
800-633-8253

MILITARY EMERGENCY RESPONSE
800-851-8061

Technical	Aviators Breathing Oxygen (ABO)	Calibration Gas Mix
6830-00-782-2645	6830-01-169-3977	6830-01-086039
6830-00-945-3961	6830-01-258-7020	
6830-01-049-5263		
6830-01-333-3151		
6830-01-431-0681		

SUPPLIER INFORMATION:

Safety and handling equipment, gas cylinders and refills, personal protection equipment, fire extinguishers, cylinder services, respirators, etc. are available at Stody Industrial and Welding Supply, Inc. Our main location is at 3316 National Avenue, (near the 32nd Street Naval Base) in San Diego California 92113. Call 1-619-234-6750 or visit our web site, stodyind.com for more information.

DISCLAIMER: The information contained herein is accurate to the best of our knowledge. Stody Industry and Welding Supply Inc., does not assume any responsibility or liability for user's reliance or consequences of reliance on the information provided in this SDS. **Stody industrial and Welding Supply, Inc. makes no warranty or guarantee of any kind, expressed or implied, concerning the safe use of this material in your process or in combination with other substances.**

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OXYGEN, COMPRESSED

1 IDENTIFICATION

- 1(a) **Product identifier used on label:** Oxygen, Compressed
- 1(b) **Other means of identification:** Oxygen USP, Aviators Breathing, Oxygen (ABO), Oxygen, (Technical O2), Calibration Gas High Purity Oxygen (99.995 to 100.0%, <10PPM Moisture)
- 1(c) **Recommended use of the chemical and restrictions on use:**
Recommended use; Engine Fuel, Weld/Brazing & Cutting, Soldering, Heating and Cooking
Restriction on use; NONE
- 1(d) **Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party**
Chemical Manufacturer: STOODY INDUSTRIAL AND WELDING SUPPLY, INC
3316 National Avenue
San Diego, CA 92113
619-234-6750
- 1(e) **Emergency phone number**
Professional Emergency Resource Services: 800-633-8253
Military Emergency Resource: 800-851-8061

2 HAZARD(S) IDENTIFICATION

- 2(a) **Classification of chemical in accordance with paragraph (d) of §1910.1200**
Nonflammable
- 2(b) **Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200**

Signal Word	Hazard Statement(s)	Symbol(s)	Precautionary Statements
Danger	(H280) Contains Gases under Pressure; may explode if heated. (H270) May cause or intensify fire; oxidizer.	 Compressed Gas / Oxidizing Gas	(Prevention P220) Keep away from clothing/ combustible materials (Prevention P244) Keep reduction valves free from grease and oil. (Response P370 + P376) In case of fire: Stop leak if safe to do so. (Storage P401 + P403) Protect from sun light. Store in a well ventilated place.

- 2(c) **Describe any hazard not otherwise classified that have been identified during the classification process**
Large amount of potential energy resulting from compression of the gas makes the cylinder a potential rocket or fragmentation bomb.
- 2(d) **Where an ingredient with unknown acute toxicity is used in a mixture at a concentration = 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consist of ingredient(s) of unknown acute toxicity is required.**
Oxygen, Compressed Gas, CAS No. 7782-44-7, consists of 0% of unknown acute toxicity.

3 COMPOSITION / INFORMATION ON INGREDIENTS

- 3(a) **Chemical name;** O2
- 3(b) **Common name;** Oxygen
- 3(c) **CAS number and other unique identifiers;**

CAS Number	Other unique identifiers
7782-44-7	UN1072
- 3(d) **Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.**
CAS number 7782-44-7, Oxygen Compressed Gas contains no other classification influencing impurities or stabilizing additives.

4 FIRST-AID MEASURES

- 4(a) **Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:**

ROUTES OF EXPOSURE (UNDER NORMAL CONDITIONS) (yes or no)

INHALATION: Yes	SKIN: Yes	EYE CONTACT: Yes	INGESTION: No
Short Term Effects: irritation, change in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions. Long Term Effects: chest pain, lung damage.	Short Term Effects: little or no effect Long Term Effects: None known	Short Term Effects: little or no effect Long Term Effects: None known.	Short Term Effects: None known. Long Term Effects: None known.

Continued on next page

4 FIRST-AID MEASURES (4(a) continued from page 1)

FIRST-AID: Rescue personnel should be aware of the extreme fire hazards associated with oxygen-enriched atmospheres. (No action shall be taken involving any personal risk or without suitable training.)

Inhalation; Move victim to fresh air or if in elevated pressures reduce oxygen pressures to 1 atmosphere. Apply artificial respiration if breathing has stopped. Keep victim warm and rested. Call a physician. The physician should be advised that the victim has been exposed to a high concentration of oxygen.

Rescue personnel should be aware of the extreme fire hazards associated with oxygen-enriched atmospheres.

Skin frostbite; flush with lukewarm water, and obtain immediate medical attention. **DO NOT RUB EFFECTED AREA.**

Eye frostbite; flush eyes with cool water for 15 minutes and obtain immediate medical attention.

Ingestion; unlikely route of exposure, at normal atmospheric pressure.

5 FIRE-FIGHTING MEASURES

5(a) Suitable (and unsuitable) extinguishing media

Oxygen is nonflammable and will accelerate combustion. All known extinguishants can be used. Use extinguishing media appropriate for surrounding fire. Combat fire from a sheltered position.

5(b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

Pressure in a container can build up due to heat and it may violently rupture if pressure relief devices should fail to function. Keep containers cool using water spray from a sheltered position.

Damaged cylinders should be handled only specialists.

6 ACCIDENTAL RELEASE MEASURES

6(a) Personal precautions, protective equipment, emergency procedures.

Evacuate all unnecessary personnel from the affected area. Shut off source of oxygen, if possible.

Remove sources of heat, ignition and, if possible, separate combustibles from the leak.

Ventilate enclosed area or move leaking container to a well-ventilated area.

If leaking from cylinder or its valve, contact your supplier.

6(b) Method and materials for containment and cleaning up.

Prevent from entering sewers, basements and work pits, or any place where its accumulation can be hazardous. Eliminate ignition sources.

7 HANDLING AND STORAGE

Do not "crack" oxygen cylinder valve before connecting it for use, self ignition could occur. When opening an oxygen cylinder valve connected for use, open it just a crack. Once the needle on the high pressure gauge has stopped, open up the valve all the way, to back-seat the valve, to prevent the high-pressure gas from leaking out through the threaded stem.

• Keep away from heat, sparks and open flame. • Use only spark-proof tools and explosion-proof equipment. • All piped Oxygen systems and associated electrical equipment must be grounded.

For "Additional Precautions in Using Oxygen" see Section 16 - Other Information.

7(b) Conditions for safe storage, including any incompatibilities.

Conditions for safe storage	Incompatibilities
<ol style="list-style-type: none"> 1. Store and use with adequate ventilation. 2. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling or being knocked over. 3. Protect cylinders from physical damage; do not drag, roll, slide or drop. 4. Full cylinders should be segregated from empty cylinders. 5. Do not allow storage area temperature to exceed 125°F (52°C). 6. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. 7. Use a suitable hand truck for cylinder movement. 8. Never attempt to lift a cylinder by its valve protection cap. 9. Keep cylinders and their valves free from oil and grease. 10. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. 	<p>Flammable materials, hydrocarbons such as oils and grease, asphalt, ethers, alcohols, acids and aldehydes</p>

Specific requirements are listed in NFPA 50A. Cylinder storage locations should be well-protected, well-ventilated, dry, and separated from combustible and reducing materials. Cylinders should never knowingly be allowed to reach a temperature exceeding 125°F (52°C).

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8(a) **OSHA permissible exposure limit (PEL), American Conference of Governments Industrial Hygienists (ACGIH) Threshold Limits Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.**
Neither “exposure limit”, “threshold limit” nor “other exposure limit” restrictions been established for compressed oxygen.
- 8(b) **Appropriate engineering controls.**
Natural or mechanical air circulation is needed to maintain a safe working environment.
- 8(c) **Individual protection measures, such as personal protective equipment.**
Safety glasses/goggles, work gloves (gloves must be clean and free of oil or grease), and safety shoes are recommended when handling cylinders.

9 PHYSICAL and CHEMICAL PROPERTIES

a) Appearance (physical state, color, etc.)	Colorless Gas
b) Odor	Odorless
c) Odor threshold	Not applicable
d) pH	Not applicable
e) Melting point/freezing point	-305.84°F (-218.4° C) @ 1 atm
f) Initial boiling point	-361.8 °F (-218.8 °C) @ 1 atm
g) Flash point	No data available
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Nonflammable (gas)
j) Upper/lower flammability or explosive limits	Nonflammable (gas)
k) Vapor pressure	109.73 psig (756.56 kPa) @ 70°F (21.2° C)
l) Vapor density	0.083 lb/ft ³ (1.323 kg/m ³) @ 70° F (21.1° C), 1 atm
m) Relative density	1.1 (air = 1)
n) Solubility(ies)	Vol/Vol @ 32°F (0°C), in water = 0.0491
o) Partition coefficient: n-octanol/water	Log Pow: 0.65
p) Auto-ignition temperature	Not applicable
q) Decomposition temperature	Not available
r) Viscosity	Not available

10 STABILITY and REACTIVITY

- 10(a) **Reactivity**
May react violently with combustible materials. See 10(c).
- 10(b) **Chemical stability**
Normally Stable
- 10(c) **Possibility of hazardous reactions**
Oxygen is a strong oxidant that violently oxidizes organic materials. Oxygen reacts with combustible and reducing materials, causing fire and explosion hazard.
- 10(d) **Conditions to avoid (e.g., static discharge, shock, or vibration)**
Pilot light flame, an electrical heater, an electrical switch spark, static discharge, tool strike spark, and ignition sources at distances away from the release point can cause combustion.
- 10(f) **Incompatible materials**
See 10(c).
- 10(g) **Hazardous decomposition products**
None under normal conditions of storage and use.

11 TOXICOLOGICAL INFORMATION

Description of the various toxicological (health) effects and available data used to identify those effects, including:

- 11(a) **Information on likely routes of exposure (inhalation, ingestion, skin and eye contact);**
Individuals exposed for long periods to oxygen at high pressure and who exhibit overt oxygen toxicity should have ophthalmologic examinations.
- 11(b) **Symptoms related to the physical, chemical and toxicological characteristics;**
See 4(a).

11 TOXICOLOGICAL INFORMATION (continued from page 3)

- 11(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure;**
See 4(a).
- 11(d) Numerical measures of toxicity (such as acute toxicity estimates)**
No identifiable acute toxicity.
- 11(e) Whether the hazardous chemical is listed in the International Toxicology Program (NTP) Report on Carcinogenic (latest edition) or has been found to be a potential carcinogenic in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.**
Oxygen is not listed as a carcinogenic or potential carcinogenic by NTP, OSHA or IARC.

12 ECOLOGICAL INFORMATION

- 12(a) Ecotoxicity (aquatic and terrestrial, where available)**
This product does not contain ecotoxicological properties, aquatic or terrestrial
- 12(b) Persistence and degradability**
No adverse information found
- 12(c) Bioaccumulative potential**
This product does not cause ecological damage.
- 12(d) Mobility in soil**
No adverse information found
- 12(e) Other adverse effects (such as hazardous to the ozone layer)**
No adverse ecological effects are expected. Oxygen does not contain any Class I or Class II ozone depleting chemicals (40 CFR Part 82). Oxygen is not listed as a marine pollutant by DOT (49 CFR Part 171).

13 DISPOSAL CONSIDERATIONS

- 13(a) Description of waste residue and information on their safe handling and method of disposal, including the disposal of any contaminated packaging.**
Do not attempt to dispose of cylinder or its contents. Cylinder(s) and unused contents should be returned to supplier for disposal in accordance with appropriate Federal, State, local regulation.
For emergency disposal, secure the cylinder and slowly discharge gas to the atmosphere in a well ventilated area or outdoors away from all sources of ignition.

14 TRANSPORTATION INFORMATION

- 14(a) UN number:** UN1072
- 14(b) UN proper shipping name:** Oxygen, compressed
- 14(c) Transportation hazard class(es):** 2.2
- 14(d) Packing group, if applicable:** Not applicable
- 14(e) Environmental hazards (e.g.,) Marine pollutant (yes/No):** No
- 14(f) Transport in bulk (according to Annex II of MARPOL 73/78 and IBC Code):**
Does not apply
- 14(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside of their premises:**
Cylinders should be properly separated from non-compatible gas cylinders and transported in a upright, secure position, in a well ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.

15 REGULATORY INFORMATION

- 15(a) Safety, health and environmental regulations specific for the product in question.**
User(s) of this product are solely responsible for regulatory compliance on a federal, state, and local level.
U.S. FEDERAL REGULATIONS:
EPA - ENVIRONMENTAL PROTECTION AGENCY
40 CFR PART 68, Risk Management for Chemical Accidental Release, does not list Oxygen as a regulated substance.

15 REGULATORY INFORMATION (continued from page 4)

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (40 CFR Parts 117 and 302):
Reportable Quantity (RQ): None

SARA: Superfund Amendment and Reauthorization Act

SECTION 302/304: Requires emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).
Extremely Hazardous Substances: None
Threshold Planning Quantity (TPQ): None

SECTIONS 311/312: Require submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA defined hazard classes (40 CFR Part 370). The hazard classes for this product are:

IMMEDIATE:	No	PRESSURE:	Yes
DELAYED:	No	REACTIVITY:	No
		FIRE:	Yes

TSCA: Toxic Substance Control Act: Oxygen is listed on the TSCA inventory.

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119, Appendix A, does not list Oxygen as a highly hazardous chemical.

No adverse ecological effects are expected. Oxygen does not contain any Class I or Class II ozone depleting chemicals (40 CFR Part 82). Oxygen is not listed as a marine pollutant by DOT (49 CFR Part 171).

Shipment of compressed gas cylinders which have not been filled with the owner's consent is a violation of Federal law (49 CFR Part 173.301 (b)).

FDA – FOOD AND DRUG ADMINISTRATION: Oxygen USP is regulated by the FDA as a prescription drug.

CALIFORNIA PROPOSITION 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): Oxygen is not listed.

CANADIAN REGULATIONS:

WHIMS Classification; A - Compressed Gas, C – Oxidizing Material

Note: "The Canadian supplier / Canadian importer has the legal responsibility to assess their products against the criteria set out in the Controlled Products Regulations."

16 OTHER INFORMATION, Including date of preparation or last revision

16(a) OTHER INFORMATION:

Never rely on the color of the cylinder for identification. (Colors may vary with suppliers.)

Additional Precautions in Using Oxygen:

1. All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service.
2. Post "No Smoking or Open Flames" signs in storage and use areas. (There must be no source of ignition.)
3. Use piping and equipment adequately designed to withstand pressures to be encountered.
4. Use piping and equipment adequately designed to withstand pressures to be encountered.
5. Use a check valve or other protective apparatus in any line or piping from the cylinder to prevent reverse flow.
6. Install valve protective cap firmly in place by hand when the cylinder is not in use.
7. A cylinder should never be emptied to a pressure lower than 172 kPa (25 psi/in2) (the residual contents may become contaminated if the valve is left open)
8. Close cylinder valve after each use even when empty.
9. Under no circumstances should any attempt be made to repair a cylinder or valve.
10. Check all connections with a soap solution for leaks, never check for leaks with using an open flame.

NFPA RATINGS:

HEALTH-Blue: = 0 FLAMMABILITY-Red: = 0 INSTABILITY-Yellow: = 0 SPECIAL HAZARDS*-White: = OX

LEGEND: 0-4 – 0-least hazardous; 4-most hazardous

***OX (Oxidizers), W (Water reactives), SA (Simple Asphyxiants), (blank if no special hazard)**

16 OTHER INFORMATION, Including date of preparation or last revision (continued from page 5)

STANDARD VALVE CONNECTIONS FOR U.S. (AND CANADA):

THREADED:	0-3000 psig	CGA 540
	3001-4000 psig	CGA 577
	4001-5500 psig	CGA 701
PIN-INDEXED YOKE:	0-3000 psig	CGA 870 (Medical Use)
ULTRA HIGH INTEGRITY:	0-3000 psig	714

Use the proper CGA connections, DO NOT USE ADAPTERS

Further information pertaining to Oxygen and its uses can be found in pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703)412-0900.

SUPPLIER INFORMATION:

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Information Sources: Data is compiled from a variety of sources, including publicly available documents, internal data and other sources.

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