

SAFETY DATA SHEET

1. Identification

Product identifier **Oxygen (includes BernzOmatic Oxygen)**

Other means of identification
SDS number WC033

Recommended use For Use With Oxy-Torches Only.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 300 E. Breed St.
 Chilton, WI 53014
 United States

E-mail SDSRequest@worthingtonindustries.com

Telephone 1-800-359-9678

Emergency telephone CHEMTREC 1-800-424-9300 (USA)
 1-703-527-3887 International
 (CCN 628056)

2. Hazard(s) identification

Physical hazards Oxidizing gases Category 1
 Gases under pressure Compressed gas

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause or intensify fire; oxidizer. Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Keep/Store away from clothing and other combustible materials. Keep reduction valves/valves and fittings free from oil and grease.

Response In case of fire: Stop leak if safe to do so.

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

Disposal Dispose of waste and residues in accordance with local authority requirements. Not assigned.

Hazard(s) not otherwise classified (HNOC) Contact with liquefied gas may cause frostbite.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Oxygen		7782-44-7	100%

Composition comments Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact	If frostbite occurs, immerse affected area in warm water (not exceeding 105°F/41°C). Keep immersed for 20 to 40 minutes. Get medical attention immediately.
Eye contact	Not likely, due to the form of the product. If frostbite occurs, immediately flush eyes with plenty of warm water (between 100°F/38°C and 110°F/43°C, not exceeding 112°F/44°C) for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
Most important symptoms/effects, acute and delayed	Overexposure can cause lung damage. May cause central nervous system effects. Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn").
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. Greatly increases the burning rate of combustible materials. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. In the event of fire, wear self-contained breathing apparatus.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Allow gas to burn if flow cannot be shut off immediately. Apply water from safe distance to cool container and protect surrounding area. Containers can burst violently when heated, due to excess pressure build-up. Remove pressurized gas cylinders from the immediate vicinity. Move containers from fire area if you can do so without risk. Do not direct water at source of leak or safety devices as icing may occur. Use water spray to cool unopened containers. Evacuate area and fight fire from a safe distance.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Greatly increases the burning rate of combustible materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Extinguish all flames in the vicinity. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. For waste disposal, see section 13 of the SDS.
Environmental precautions	No special environmental precautions required.

7. Handling and storage

Precautions for safe handling	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Keep away from combustible material. Keep reduction valves free from grease and oil. Provide adequate ventilation. Wear appropriate personal protective equipment. Use care in handling/storage. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat and sources of ignition. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Secure cylinders in an upright position at all times, close all valves when not in use. Do not store near combustible materials. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended. Face shield is recommended.
Skin protection	
Hand protection	Wear cold insulating gloves.
Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Gas.
Form	Compressed gas.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-361.12 °F (-218.4 °C)
Initial boiling point and boiling range	-297.4 °F (-183 °C)
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Non flammable. May intensify fire; oxidizer.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Vapor density	1.105 (Air= 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	0.65
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Critical temperature	-181.48 °F (-118.6 °C)
Density	71.23 lb/ft ³ (Liquid Density@Boiling Point)
Explosive properties	Not explosive.
Molecular formula	O ₂
Molecular weight	32 g/mol
Oxidizing properties	May cause or intensify fire; oxidizer.

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep away from combustible material. Contact with incompatible materials.
Incompatible materials	Combustible material. Strong reducing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Overexposure can cause lung damage. May cause central nervous system effects.
Skin contact	Contact with compressed gas can cause damage (frostbite) due to rapid evaporative cooling.
Eye contact	Contact with compressed gas can cause damage (frostbite) due to rapid evaporative cooling.
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Symptoms related to the physical, chemical and toxicological characteristics Overexposure can cause lung damage. May cause central nervous system effects. Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn").

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not relevant, due to the form of the product.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous.
Persistence and degradability	Not relevant, due to the form of the product.
Bioaccumulative potential	

Partition coefficient n-octanol / water (log Kow)

0.65

Mobility in soil	Not relevant, due to the form of the product.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Consult authorities before disposal. Use the container until empty. This material and its container must be disposed of as hazardous waste. Do not puncture or incinerate even when empty. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1072
UN proper shipping name	Oxygen, compressed
Transport hazard class(es)	
Class	2.2
Subsidiary risk	5.1
Label(s)	2.2, 5.1
Packing group	-
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	110, A14
Packaging exceptions	306
Packaging non bulk	302
Packaging bulk	314, 315

IATA

UN number	UN1072
UN proper shipping name	Oxygen, compressed
Transport hazard class(es)	
Class	2.2
Subsidiary risk	5.1
Label(s)	2.2, 5.1
Packing group	-
Environmental hazards	No
ERG Code	2X
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1072
UN proper shipping name	OXYGEN, COMPRESSED
Transport hazard class(es)	
Class	2.2
Subsidiary risk	5.1
Packing group	-
Environmental hazards	
Marine pollutant	No
EmS	F-C, S-W
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)

This substance is on the TSCA 8(b) inventory and is designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical

Classified hazard categories	Oxidizer (liquid, solid, or gas) Gas under pressure Hazard not otherwise classified (HNOC)
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-June-2014
Revision date	21-March-2021
Version #	02
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 3

NFPA ratings



Disclaimer

All information in this Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.