

MA 18P 21072100000000000005
NEW

State of Maine



Master Agreement

Effective Date: 08/01/21

Expiration Date: 07/31/23

Master Agreement Description: Bulk Liquid Oxygen- Fish Hatcheries

Buyer Information

William Allen 207-624-7871 ext. NULL WJE.Allen@maine.gov

Issuer Information

Karen Estabrook 207-287-5252 ext. Karen.Estabrook@maine.gov

Requestor Information

Karen Estabrook 207-287-5252 ext. Karen.Estabrook@maine.gov

Agreement Reporting Categories

Authorized Departments

Vendor Information

Vendor Line #: 1

Vendor ID

VC1000061814

Vendor Name

MAINE OXY ACETYLENE SUPPLY INC

Alias/DBA

not for education/school use VC1000067948

Vendor Address Information

100 WASHINGTON STR N

AUBURN, ME 04210

US

Vendor Contact Information

Paul A Rice Jr.

Vendor Line #: 1

Vendor Name: MAINE OXY ACETYLENE SUPPLY INC

Commodity Line #: 1

Commodity Code: 88574

Commodity Description: Bulk Liquid Oxygen- Fish Hatcheries

Commodity Specifications:

Commodity Extended Description: Bulk Liquid Oxygen- Fish Hatcheries

Quantity	UOM	Unit Price
0.00000		0.000000

Delivery Days	Free On Board
14	

Contract Amount	Service Start Date	Service End Date
0.00		

Catalog Name	Discount	
Hatchery Oxygen	0.0000	%
	Discount Start Date	Discount End Date
	08/01/21	07/31/23

Please see authorized signatures displayed on the next page

Each signatory below represents that the person has the requisite authority to enter into this Contract. The parties sign and cause this Contract to be executed.

State of Maine - Department of Administrative and Financial Services

DocuSigned by:

Leime C. Schorr

7/21/2021

6D6437754DD0459

Signature

Date _____

Jaime C. Schorr, Chief Procurement Officer

and

MAINE OXY ACETYLENE SUPPLY INC

-DocuSigned by:

Paul Rice

7/21/2021

—B45568AC018B40B...

Signature

Date _____

Paul Rice, Territory Manager

RIDERS

<input checked="" type="checkbox"/>	The following riders are hereby incorporated into this Contract and made part of it by reference: (check all that apply)
<input checked="" type="checkbox"/>	Rider A – Scope of Work and/or Specifications
<input checked="" type="checkbox"/>	Rider B – Terms and Conditions
<input type="checkbox"/>	Rider C - Exceptions
<input checked="" type="checkbox"/>	Bid Cover Page and Debarment Form – Appendix A from RFQ
<input type="checkbox"/>	Municipality Political Subdivision and School District Participation Certification – Appendix D from RFQ
<input checked="" type="checkbox"/>	Price sheet
<input checked="" type="checkbox"/>	SDS – Safety Data Sheet

RIDER A
Scope of Work and/or Specifications
MA 210721-005

Commodity: Bulk Liquid Oxygen- Fish Hatcheries

The State reserves the right to add other similar items or commodities to the Master Agreement (MA) if it's in the State's best interest but does not obligate the State to purchase similar noncontracted items or commodities from this vendor.

Master Agreement Competitive Bid RFQ: 09A 210621*278

Contract Period: Through July 31, 2023. The State of Maine with vendor approval can opt to issue up to one (1) two (2) year and one (1) one (1) year extensions.

Vendor Contact Person: The vendor contact person will help consumers place orders, inquire about orders that have not been delivered, all shipping issues, quality issues and any issues pertaining to the Master Agreement (MA) contract. All orders not submitted through a Delivery Order will be sent through the vendor contact person. The vendor contact person for this MA is: **Name:** Paul Rice **Tel:** 207-415-3936 **Email:** price@maineoxy.com

Prices: Bid Price must be with shipping terms of "Free on Board (FOB) – Destination". The State intends for this to mean that all goods shall be priced in the bid response to include shipping charges, if any, to the State's desired location. The "FOB – Destination" shipping term is also intended to mean that the State shall not bear any responsibility for the goods in question until the State takes possession of them at the destination point of delivery.

Price and Rate Guarantee Period: All quoted prices and rates must be guaranteed for and must remain firm for minimally one year of the initial contract period. Any approved price or rate adjustments must be held firm for minimally one year or the remainder of the contract period. Price adjustment requests must be made by the selected vendor(s) at least sixty (60) days prior to the effective date. Requests for price adjustments must include sufficient documentation from the manufacture supporting the request. The price adjustment will not go into effect until the contract amendment has been fully approved by the State of Maine.

Quantities: It is understood and agreed that the MA will cover the actual quantities required by the State over the length of the contract.

Using Department: The only department that is permitted to use this MA is Inland Fisheries & Wildlife.

Ordering Procedures: Delivery Orders (DO) will be created in AdvantageME for all orders over \$5000.00. If a DO is used, the DO will be emailed to the email address referenced on the MA as a .pdf file. Orders less than \$5000.00 can be placed using a State of Maine issued P-Card (credit card).

DS
PR

Delivery: The vendor is responsible for the delivery of material in first class condition at the point of delivery, and in accordance with good commercial practice.

Delivery Locations:

Casco Fish Hatchery
70 Fish Hatchery Road
Casco Maine 04015

Dry Mills Fish Hatchery
158 Weymouth Road
Gray, Maine 04039

Embden Rearing Station
809 Cross Town Road
Embden, Maine 04958

Enfield Fish Hatchery
45 Cobb Road
Enfield, Maine 04493

Governor Hill Fish Hatchery
82 Hatchery Road
Augusta, Maine 04330

Palermo Rearing Station
200 Gore Road
Palermo, Maine 04354

**RIDER B
TERMS AND CONDITIONS**

- 1. DEFINITIONS:** The following definitions are applicable to these standard terms and conditions:
 - a. The term “Buyer” or “State” shall refer to the Government of the State of Maine or a person representing the Government of the State of Maine.
 - b. The term “Department” or “DAFS” shall refer to the State of Maine Department of Administrative and Financial Services.
 - c. The term “Bureau” or “BGS” shall refer to the State of Maine Bureau of General Services.
 - d. The term “Division” shall refer to the State of Maine Division of Purchases.
 - e. The term “Contractor”, “Vendor”, or “Provider” shall refer to the organization that is providing goods and/or services through the contract to which these standard terms and conditions have been attached and incorporated.
 - f. The term “Contract” or “Agreement” shall refer to the contract document to which these standard terms and conditions apply, taking the format of a Buyer Purchase Order (BPO) or Master Agreement (MA) or other contractual document that is mutually agreed upon between the State and the Contractor.
- 2. WARRANTY:** The Contractor warrants the following:
 - a. That all goods and services to be supplied by it under this Contract are fit and sufficient for the purpose intended, and
 - b. That all goods and services covered by this Contract will conform to the specifications, drawing samples, symbols or other description specified by the Division, and
 - c. That such articles are merchantable, good quality, and free from defects whether patent or latent in material and workmanship, and
 - d. That all workmanship, materials, and articles to be provided are of the best grade and quality, and
 - e. That it has good and clear title to all articles to be supplied by it and the same are free and clear from all liens, encumbrances and security interest.

Neither the final certificate of payment nor any provision herein, nor partial nor entire use of the articles provided shall constitute an acceptance of work not done in accordance with this agreement or relieve the Contractor liability in respect of any warranties or responsibility for faulty material or workmanship. The Contractor shall remedy any defects in the work and pay any damage to other work resulting therefrom, which shall appear within one year from the date of final acceptance of the work provided hereunder. The Division of Purchases shall give written notice of observed defects with reasonable promptness.

3. TAXES: Contractor agrees that, unless otherwise indicated in the order, the prices herein do not include federal, state, or local sales or use tax from which an exemption is available for purposes of this order. Contractor agrees to accept and use tax exemption certificates when supplied by the Division as applicable. In case it shall ever be determined that any tax included in the prices herein was not required to be paid by Contractor, Contractor agrees to notify the Division and to make prompt application for the refund thereof, to take all proper steps to procure the same and when received to pay the same to the Division.

4. PACKING AND SHIPMENT: Deliveries shall be made as specified without charge for boxing, carting, or storage, unless otherwise specified. Articles shall be suitably packed to secure lowest transportation cost and to conform to the requirements of common carriers and any applicable specifications. Order numbers and symbols must be plainly marked on all invoices,

packages, bills of lading, and shipping orders. Bill of lading should accompany each invoice. Count or weight shall be final and conclusive on shipments not accompanied by packing lists.

5. DELIVERY: Delivery should be strictly in accordance with delivery schedule. If Contractor's deliveries fail to meet such schedule, the Division, without limiting its other remedies, may direct expedited routing and the difference between the expedited routing and the order routing costs shall be paid by the Contractor. Articles fabricated beyond the Division's releases are at Contractor's risk. Contractor shall not make material commitments or production arrangements in excess of the amount or in advance of the time necessary to meet delivery schedule, and, unless otherwise specified herein, no deliveries shall be made in advance of the Division's delivery schedule. Neither party shall be liable for excess costs of deliveries or defaults due to the causes beyond its control and without its fault or negligence, provided, however, that when the Contractor has reason to believe that the deliveries will not be made as scheduled, written notice setting forth the cause of the anticipated delay will be given immediately to the Division. If the Contractor's delay or default is caused by the delay or default of a subcontractor, such delay or default shall be excusable only if it arose out of causes beyond the control of both Contractor and subcontractor and without fault of negligence or either of them and the articles or services to be furnished were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.

6. FORCE MAJEURE: The State may, at its discretion, excuse the performance of an obligation by a party under this Agreement in the event that performance of that obligation by that party is prevented by an act of God, act of war, riot, fire, explosion, flood or other catastrophe, sabotage, severe shortage of fuel, power or raw materials, change in law, court order, national defense requirement, or strike or labor dispute, provided that any such event and the delay caused thereby is beyond the control of, and could not reasonably be avoided by, that party. The State may, at its discretion, extend the time period for performance of the obligation excused under this section by the period of the excused delay together with a reasonable period to reinstate compliance with the terms of this Agreement.

7. INSPECTION: All articles and work will be subject to final inspection and approval after delivery, notwithstanding prior payment, it being expressly agreed that payment will not constitute final acceptance. The Division of Purchases, at its option, may either reject any article or work not in conformity with the requirements and terms of this order, or re-work the same at Contractor's expense. The Division may reject the entire shipment where it consists of a quantity of similar articles and sample inspection discloses that ten (10%) percent of the articles inspected are defective, unless Contractor agrees to reimburse the Division for the cost of a complete inspection of the articles included in such shipment. Rejected material may be returned at Contractor's risk and expense at the full invoice price plus applicable incoming transportation charges, if any. No replacement of defective articles of work shall be made unless specified by the Division.

8. INVOICE: The original and duplicate invoices covering each and every shipment made against this order showing Contract number, Vendor number, and other essential particulars, must be forwarded promptly to the ordering agency concerned by the Vendor to whom the order is issued. Delays in receiving invoice and also errors and omissions on statements will be considered just cause for withholding settlement without losing discount privileges. All accounts are to be carried in the name of the agency or institution receiving the goods, and not in the name of the Division of Purchases.

9. ALTERATIONS: The Division reserves the right to increase or decrease all or any portion of the work and the articles required by the bidding documents or this agreement, or to eliminate

all or any portion of such work or articles or to change delivery date hereon without invalidating this Agreement. All such alterations shall be in writing. If any such alterations are made, the contract amount or amounts shall be adjusted accordingly. In no event shall Contractor fail or refuse to continue the performance of the work in providing of articles under this Agreement because of the inability of the parties to agree on an adjustment or adjustments.

10. TERMINATION: The Division may terminate the whole or any part of this Agreement in any one of the following circumstances:

- a. The Contractor fails to make delivery of articles, or to perform services within the time or times specified herein, or
- b. If Contractor fails to deliver specified materials or services, or
- c. If Contractor fails to perform any of the provisions of this Agreement, or
- d. If Contractor so fails to make progress as to endanger the performance of this Agreement in accordance with its terms, or
- e. If Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors or if a receiver is appointed because of its insolvency, or
- f. Whenever for any reason the State shall determine that such termination is in the best interest of the State to do so.

In the event that the Division terminates this Agreement in whole or in part, pursuant to this paragraph with the exception of 8(f), the Division may procure (articles and services similar to those so terminated) upon such terms and in such manner as the Division deems appropriate, and Contractor shall be liable to the Division for any excess cost of such similar articles or services.

11. NON-APPROPRIATION: Notwithstanding any other provision of this Agreement, if the State does not receive sufficient funds to fund this Agreement and other obligations of the State, if funds are de-appropriated, or if the State does not receive legal authority to expend funds from the Maine State Legislature or Maine courts, then the State is not obligated to make payment under this Agreement.

12. COMPLIANCE WITH APPLICABLE LAWS: Contractor agrees that, in the performance hereof, it will comply with applicable laws, including, but not limited to statutes, rules, regulations or orders of the United States Government or of any state or political subdivision(s) thereof, and the same shall be deemed incorporated herein by reference. Awarding agency requirements and regulations pertaining to copyrights and rights in data. Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions. Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h), section 508 of the Clean Water Act, (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000). Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

13. INTERPRETATION: This Agreement shall be governed by the laws of the State of Maine as to interpretation and performance.

14. DISPUTES: The Division will decide any and all questions which may arise as to the quality and acceptability of articles provided and installation of such articles, and as to the manner of performance and rate of progress under this Contract. The Division will decide all questions, which may arise as to the interpretation of the terms of this Agreement and the fulfillment of this Agreement on the part of the Contractor.

15. ASSIGNMENT: None of the sums due or to become due nor any of the work to be performed under this order shall be assigned nor shall Contractor subcontract for completed or substantially completed articles called for by this order without the Division's prior written consent. No subcontract or transfer of agreement shall in any case release the Contractor of its obligations and liabilities under this Agreement.

16. STATE HELD HARMLESS: The Contractor agrees to indemnify, defend, and save harmless the State, its officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, material men, laborers and other persons, firm or corporation furnishing or supplying work, services, articles, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the performance of this Agreement.

17. SOLICITATION: The Contractor warrants that it has not employed or written any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement, and it has not paid, or agreed to pay any company, or person, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon, or resulting from the award for making this Agreement. For breach or violation of this warranty, the Division shall have the absolute right to annul this agreement or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gifts, or contingent fee.

18. WAIVER: The failure of the Division to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of this order or to exercise any right hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such term, covenant, or condition or the future exercise of such right, but the obligation of Contractor with respect to such future performance shall continue in full force and effect.

19. MATERIAL SAFETY: All manufacturers, importers, suppliers, or distributors of hazardous chemicals doing business in this State must provide a copy of the current Material Safety Data Sheet (MSDS) for any hazardous chemical to their direct purchasers of that chemical.

20. COMPETITION: By accepting this Contract, Contractor agrees that no collusion or other restraint of free competitive bidding, either directly or indirectly, has occurred in connection with this award by the Division of Purchases.

21. INTEGRATION: All terms of this Contract are to be interpreted in such a way as to be consistent at all times with this Standard Terms and Conditions document, and this document shall take precedence over any other terms, conditions, or provisions incorporated into the Contract.

Appendix A

STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
DIVISION OF PROCUREMENT SERVICES

BID COVER PAGE and DEBARMENT FORM

Bidder's Organization Name: <i>Maine Oxy & Acetylene Supply Co.</i>		
Chief Executive - Name/Title: <i>Dan Guerin President</i>		
Tel: <i>207-784-5188</i>	Fax: <i>207-784-5383</i>	E-mail: <i>DGuerin@MAINEoxy.com</i>
Headquarters Street Address: <i>22 Albiston Way #5</i>		
Headquarters City/State/Zip: <i>Auburn MAINE 04210</i>		
<i>(provide information requested below if different from above)</i>		
Lead Point of Contact for Bid - Name/Title: <i>Paul Rice Jr.</i>		
Tel: <i>207-415-3936</i>	Fax: <i>✓</i>	E-mail: <i>price@MAINEoxy.com</i>
Street Address: <i>SAME</i>		
City/State/Zip: <i>SAME</i>		

By signing below Bidder affirms:

- Their bid complies with all requirements of this RFQ;
- This bid and the pricing structure contained herein will remain firm for a period of 180 days from the date and time of the bid opening;
- That no personnel currently employed by the Department or any other State agency participated, either directly or indirectly, in any activities relating to the preparation of the Bidder's proposal;
- That no attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a proposal; and
- The undersigned is authorized to enter into contractual obligations on behalf of the above-named organization.

Name: <i>Paul A Rice Jr.</i>	Title: <i>Territory Manager</i>
To have your bid accepted, this Appendix MUST have an actual wet signature or utilize DocuSign or Adobe Sign forms of electronic signature.	
Authorized Signature: <i>Paul A Rice Jr.</i>	Date: <i>6/30/21</i>

Debarment, Performance, and Non-Collusion Certification

By signing this document, I certify to the best of my knowledge and belief that the aforementioned organization, its principals, and any subcontractors named in this proposal:

- a. Are not presently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from bidding or working on contracts issued by any governmental agency.
- b. Have not within three years of submitting the proposal for this contract been convicted of or had a civil judgment rendered against them for:
 - i. fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government transaction or contract.
 - ii. violating Federal or State antitrust statutes or committing embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - iii. are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
 - iv. have not within a three (3) year period preceding this proposal had one or more federal, state or local government transactions terminated for cause or default.
- c. Have not entered into a prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and this proposal is in all respects fair and without collusion or fraud. The above mentioned entities understand and agree that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.

- Failure to provide this certification may result in the disqualification of the Bidder's proposal, at the discretion of the Department.

To the best of my knowledge all information provided in the enclosed proposal, both programmatic and financial, is complete and accurate at the time of submission.

Name: <i>Paul Rice Jr.</i>	Title: <i>Territory Manager</i>
To have your bid accepted, this Appendix MUST have an actual wet signature or utilize Docu Sign or Adobe Sign forms of electronic signature.	
Authorized Signature: <i>Paul A Rice Jr.</i>	Date: <i>6/30/21</i>

SUPPLIER NAME	ITEM DESCRIPTION	EXTENDED DESCRIPTION	UNIT OF MEASURE	LIST PRICE	DELIVERY DAYS
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-PALERMO REARING STATION	Prices FOB Destination	gal	\$0.670	7
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-EMBDEN REARING STATION	Prices FOB Destination	gal	\$0.675	7
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-GOVERNOR HILL FISH HATCHERY	Prices FOB Destination	gal	\$0.670	7
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-CASCO FISH HATCHERY	Prices FOB Destination	gal	\$0.593	7
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-ENFIELD FISH HATCHERY	Prices FOB Destination	gal	\$0.840	7
MAINE OXY ACETYLENE SUPPLY INC	LIQUID OXYGEN-DRY MILLS FISH HATCHERY	Prices FOB Destination	gal	\$0.593	7

Making our world
more productive

PRAXAIR

Oxygen, refrigerated liquid

Safety Data Sheet P-4637

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979

Revision date: 08/31/2020

Supersedes: 10/21/2016

Version: 1.1

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Substance
 Trade name : Liquid Oxygen, Medipure Liquid Oxygen
 CAS-No. : 7782-44-7
 Formula : O₂
 Other means of identification : Oxygen (cryogenic liquid), Liquid Oxygen, Medipure Liquid Oxygen

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

Use of the substance/mixture : Industrial use
 Medical applications.

1.3. Details of the supplier of the safety data sheet

Linde Inc.
 10 Riverview Drive
 Danbury, CT 06810-6268 - USA
 T 1-844-44LINDE (1-844-445-4633)
www.lindeus.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
 — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
 (collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS US classification

Ox. Gas 1 H270
 Press. Gas (Ref. Liq.) H281

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US)



GHS03

GHS04

Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H270 - MAY CAUSE OR INTENSIFY FIRE; OXIDIZER
 H281 - CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY
 CGA-HG13 - COMBUSTIBLES IN CONTACT WITH LIQUID OXYGEN MAY EXPLODE ON
 IGNITION OR IMPACT.

Precautionary statements (GHS US)

: P202 - Do not handle until all safety precautions have been read and understood.
 P220 - Keep/Store away from clothing, combustible materials
 P244 - Keep reduction valves/valves and fittings free from oil and grease
 P271+P403 - Use and store only outdoors or in a well-ventilated place.
 P282 - Wear cold insulating gloves/face shield/eye protection, cold insulating gloves, face
 shield, eye protection
 P370+P376 - IN CASE OF FIRE: Stop leak if safe to do so
 CGA-PG05 - Use a back flow preventive device in the piping.
 CGA-PG20+CGA-PG10 - Use only with equipment of compatible materials of construction and
 rated for cylinder pressure.

EN (English US)

SDS ID: P-4637

1/10

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Date of issue: 01/01/1979 Revision date: 08/31/2020 Supersedes: 10/21/2016 Version: 1.1

- CGA-PG22 - Use only with equipment cleaned for oxygen service.
 CGA-PG24 - DO NOT change or force fit connections.
 CGA-PG28 - Avoid spills. Do not walk on or roll equipment over spills.
 CGA-PG06 - Close valve after each use and when empty.
 CGA-PG23 - Always keep container in upright position.

2.3. Other hazards

Other hazards not contributing to the classification

- : Breathing 80 percent or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain, and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and central nervous system (CNS) effects, resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness, and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

Contact with liquid may cause cold burns/frostbite.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%
Oxygen, refrigerated liquid (Main constituent)	(CAS-No.) 7782-44-7	100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to uncontaminated area. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Vigorously accelerates combustion. Use media appropriate for surrounding fire. Water (e.g, safety shower) is the preferred extinguishing media for clothing fires.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.
- Reactivity : No reactivity hazard other than the effects described in sub-sections below.

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5.3. Advice for firefighters

Firefighting instructions

: DANGER! Extremely cold liquid and gas under pressure. Take care not to direct spray onto vents on top of container. Do not discharge sprays directly into liquid; cryogenic liquid can freeze water rapidly.

Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting

: Do not enter fire area without proper protective equipment, including respiratory protection.

Special protective equipment for fire fighters

: Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods

: Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.

Exposure to fire may cause containers to rupture/explode.

Stop flow of product if safe to do so.

Use water spray or fog to knock down fire fumes if possible.

If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.

Other information

: Do not walk on or roll equipment over a spill; any impact could cause an explosion. Smoking, flames, and electric sparks are potential explosion hazards in oxygen-enriched atmospheres.

Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.)

Cryogenic liquid causes severe frostbite, a burn-like injury. Heat of fire can build pressure in a closed container and cause it to rupture. Venting vapors may obscure visibility. Air will condense on surfaces such as vaporizers or piping exposed to liquid or cold gas. Nitrogen, which has a lower boiling point than oxygen, evaporates first, leaving an oxygen-enriched condensate.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

: Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Ensure adequate air ventilation. Eliminate ignition sources. Evacuate area. Try to stop release. Monitor concentration of released product. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

- Never use oxygen as a substitute for compressed air. Never use an oxygen jet for any type of cleaning, especially for cleaning clothing. Oxygen-saturated clothing may burst into flame at the slightest spark and be quickly consumed in an engulfing fire. Do not get liquid in eyes, on skin, or on clothing. Persons exposed to high concentrations of liquid oxygen should stay in a well-ventilated or open area for 30 minutes before entering a confined space or going near any source of ignition. Immediately remove clothing exposed to oxygen and air it out to reduce the likelihood of an engulfing fire. Prevent ignition sources, such as static electricity generated in clothing while walking.

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

- Store only where temperature will not exceed 125°F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g. NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

When working with cryogenic/cold liquid or gaseous oxygen under pressure, avoid using materials that are incompatible with oxygen use.

When working with cryogenic/cold liquid or gas under pressure, avoid using materials that are incompatible with cryogenic use. Some metals, such as carbon steel, may fracture easily at low temperature. Use only transfer lines designed for cryogenic liquids. Prevent liquid or cold gas from being trapped in piping between valves. Equip the piping with pressure relief devices. Praxair recommends piping all vents to the exterior of the building.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Oxygen, refrigerated liquid (7782-44-7)	
ACGIH	Not established
USA OSHA	Not established

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8.2 Exposure controls

Appropriate engineering controls	: Avoid oxygen rich (>23.5%) atmospheres. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). Gas detectors should be used when oxidizing gases may be released. Oxygen detectors should be used when asphyxiating gases may be released. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.
Hand protection	: Wear working gloves when handling gas containers.
Eye protection	: Wear safety glasses with side shields. Wear goggles and a face shield when transfilling or breaking transfer connections.
Skin and body protection	: Wear loose-fitting, cryogenic gloves, metatarsal shoes for container handling, and protective clothing where needed. Cuffless trousers should be worn outside the shoes. Gloves must be free of oil and grease. Select in accordance with OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
Respiratory protection	: None required under normal use. An air-supplied respirator must be used while working with this product in confined spaces. The respiratory protection used must conform with OSHA rules as specified in 29 CFR 1910.134. Select per OSHA 29 CFR 1910.134 and ANSI Z88.2.
Thermal hazard protection	: Wear cold insulating gloves. Wear cold insulating gloves when transfilling or breaking transfer connections.
Environmental exposure controls	: None necessary.
Other information	: Consider the use of flame resistant safety clothing. Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Molecular mass	: 32 g/mol
Color	: Bluish liquid.
Odor	: Odorless.
Odor threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -219 °C (-362°F)
Freezing point	: -218.4 °C (-361°F)
Boiling point	: -183 °C (-297°F)
Flash point	: No data available
Critical temperature	: -118.6 °C (-181°F)
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Critical pressure	: 50.4 bar (731.4 psia)
Relative vapor density at 20 °C	: No data available
Relative density	: 1.1
Density	: 1.4289 kg/m³ (at 21.1 °C)
Relative gas density	: 1.1
Solubility	: Water: 39 mg/l
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.

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Explosive properties	: Not applicable.
Oxidizing properties	: Oxidizer.
Explosion limits	: No data available

9.2. Other information

Gas group	: Press. Gas (Ref. Liq.)
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Risk of explosion if spilt on organic structural materials (e.g. wood or asphalt). Violently oxidizes organic material.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Consult supplier for specific recommendations. Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (> 30 bar) oxygen lines in case of combustion. Keep equipment free from oil and grease. May react violently with combustible materials. May react violently with reducing agents.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
	pH: Not applicable.
Serious eye damage/irritation	: Not classified
	pH: Not applicable.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: No ecological damage caused by this product.
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12.2. Persistence and degradability

Oxygen, refrigerated liquid (7782-44-7)

Persistence and degradability	No ecological damage caused by this product.
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EN (English US)

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12.3. Bioaccumulative potential

Oxygen, refrigerated liquid (7782-44-7)	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Oxygen, refrigerated liquid (7782-44-7)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects	: Can cause frost damage to vegetation.
Effect on ozone layer	: None.
Effect on the global warming	: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Do not discharge into any place where its accumulation could be dangerous.
Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT	
Transport document description	: UN1073 Oxygen, refrigerated liquid (cryogenic liquid), 2.2
UN-No.(DOT)	: UN1073
Proper Shipping Name (DOT)	: Oxygen, refrigerated liquid (cryogenic liquid)
Class (DOT)	: 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT)	: 2.2 - Non-flammable gas 5.1 - Oxidizer



DOT Special Provisions (49 CFR 172.102)	: T75 - When portable tank instruction T75 is referenced in Column (7) of the 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of 178.277 of this subchapter. TP5 - For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium. TP22 - Lubricants for portable tank fittings (for example, gaskets, shut-off valves, flanges) must be oxygen compatible.
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Additional information

Emergency Response Guide (ERG) Number	: 122 (UN1072)
Other information	: No supplementary information available.

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Special transport precautions

- : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
 - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

- UN-No. (IMDG) : 1073
- Proper Shipping Name (IMDG) : OXYGEN, REFRIGERATED LIQUID
- Class (IMDG) : 2 - Gases
- Division (IMDG) : 2.2 - Non-flammable, non-toxic gases
- MFAG-No : 122

Air transport

- UN-No. (IATA) : 1073
- Proper Shipping Name (IATA) : Oxygen, refrigerated liquid
- Class (IATA) : 2
- Civil Aeronautics Law : Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Oxygen, refrigerated liquid (7782-44-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Fire hazard
Immediate (acute) health hazard
Sudden release of pressure hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

CANADA

Oxygen, refrigerated liquid (7782-44-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Oxygen, refrigerated liquid (7782-44-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Oxygen, refrigerated liquid (7782-44-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

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15.3. US State regulations

Oxygen, refrigerated liquid(7782-44-7)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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SECTION 16: Other information

Other information

- : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Linde asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Linde Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

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NFPA health hazard

- : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

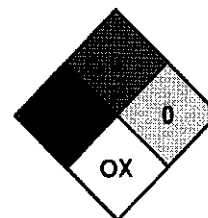
- : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA instability

- : 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA specific hazard

- : OX - Materials that possess oxidizing properties.



Hazard Rating

Health

- : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

- : 0 Minimal Hazard

Physical

- : 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.