



June 4, 2021

CITY OF SANTA FE
 Fran Dunaway
 CPO
 CNM200 Lincoln Ave.
 Room 122
 Santa Fe, NM 87505

**RE: ITB # 21/39/B
 DUE JUNE 10, 2021 @ 2:00 PM MST**

To Whom It May Concern:

We are pleased to submit our proposal for your Liquid Oxygen requirements estimated at 10,000,000 cf per year into one customer owned 6,000-gallon storage tank in Santa Fe, NM.

CLARIFICATION TO BID SPECIFICATIONS

If legally allowed by the bidding process, Linde’s Sales, Legal, and Risk Management groups are available for further discussion on any of the modifications and additions or clarifications provided below.

TERMS & CONDITIONS		
Pg 2	7. Inspection of Plant	Note: Scheduled site visits will be allowed but are subject to Seller's security, safety, and confidentiality procedures.
Pg 2	8. Commercial Warranty	Delete referenced section in its entirety. What we can provide is in the Specifications section below.
Pg 3	11. Default	Delete second and third sentence of the referenced section. What we can provide is in the Contingencies section below.
Pg 4	19. Contractor Personnel	Delete referenced section in its entirety.
Pg 4	20. Subcontracting	Modify referenced section as indicated below: Contractor shall not subcontract any portion of the Agreement without the prior written approval of the Requesting Department except that Bidder may without the consent of the City, use and employ third party contract carriers to transport and deliver the products supplied hereunder to City.
IMPORTANT BIDDING INFORMATION		
PG 7	Hold Harmless and Indemnification Clause	Delete referenced section in its entirety. What we can provide is in the Health, Safety, and Liability section below. If the indemnification language as contained in this Section is not acceptable, upon mutual agreement the contract could be silent as to liability and indemnity.

In addition to the above, the following terms and conditions are hereby incorporated into the bid documents and confirm the agreement of Buyer (defined below) to purchase Buyer’s total requirements, in gaseous and liquid form, of Product (defined below) for use at Buyer's Locations(s) (defined below) for the period of the Basic Term (defined below) and the agreement of Linde Inc. (“Seller”) to deliver Product to Buyer pursuant to these terms and conditions. The terms and conditions set forth below are incorporated into the bid documents and these terms and conditions together with the bid documents as modified by the above letter are collectively referred to as the “Agreement”. Payment terms are net thirty (30) days from date of invoice.

For purposes of this letter the terms "Buyer", “Buyer's Location”, “Basic Term”, "Prices", "Product," "Specifications", and “Product Storage System” will have the respective meanings set forth below:

- “Buyer” means City of Santa Fe, having an address at 341 Caja Del Rio Santa Fe, NM 87506
- “Buyer's Location(s)” means Santa Fe, NM
- “Basic Term” means four (4) years from date of first fill to the Product Storage System
- “Prices” means \$1.29/ccf
- “Product” means Liquid Oxygen
- “Specifications” means ≥ 99.5% assay; NSF60
- “Product Storage System” means one Customer Owned 6,000-gallon tank

Product will meet ANSI/AWWA B510 and NSF-60 Standards. Evidence of certification can be found by going to the following website: WQA.org

You will find a list of all the plants that are NSF-60 certified for carbon dioxide. Supply to your facility will be shipping from the Loveland, CO facility. Attached is a copy of the paperwork that you will receive with each shipment of Carbon Dioxide to your facility indicating that the product is certified by Water Quality Association (WQA) to the ANSI/NSF Standard 60, Drinking Water Treatment Chemicals – Health Effects.

Enclosed are Safety Data Sheet(s)

1. **BUYER'S STORAGE SYSTEM:** Buyer, at its expense, will maintain the Product Storage System ("Product Storage System") and the site on which the Product Storage System is located. Seller will have the right, without any liability hereunder, to refuse to deliver Product into the Product Storage System if Seller reasonably determines that the Product Storage System or Product Storage System site is unfit for the storage or delivery of Product or the site on which the Product Storage System is located is not safe as determined by Seller for the delivery of Product. Buyer will indemnify and hold harmless Seller from and against any and all costs, fees (including reasonable legal fees and expenses), damages, liabilities and claims arising out of Buyer's failure to properly install, maintain or operate the Product Storage System or the Product Storage System site.

2. **SPECIFICATIONS.** Product delivered hereunder will meet the Specifications. Buyer may reject any Product which does not meet the Specifications and no charge will be made for Product so rejected. Since Buyer may obtain devices which have the capability of testing whether Product meets the Specifications, no claim of any kind with respect to the conformance of Product to the foregoing Specifications, whether or not based on negligence, warranty, strict liability or any other theory of law, will be greater than the price of the quantity of nonconforming Product in respect to which such claim is made. The foregoing constitutes Buyer's exclusive remedy and Seller's sole obligation with respect to any such claim. **THERE ARE NO EXPRESS WARRANTIES BY SELLER OTHER THAN THOSE SPECIFIED IN THIS ARTICLE 2. NO WARRANTIES BY SELLER (OTHER THAN WARRANTY OF TITLE AS PROVIDED IN THE UNIFORM COMMERCIAL CODE) WILL BE IMPLIED OR OTHERWISE CREATED UNDER THE UNIFORM COMMERCIAL CODE INCLUDING, WITHOUT LIMITATION, WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

3. **CONTINGENCIES.** Neither party hereto will be liable to the other for default or delay in the performance of any of its obligations hereunder (except any obligation to make payments when due) due to act of God, accident, fire, flood, storm, riot, war, act of terrorism, sabotage, explosion, strike, concerted acts of workers, national defense requirements, governmental law, ordinance, rule or regulation, whether valid or invalid, extraordinary failure of equipment or apparatus, inability to obtain electricity or other type of energy, feedstock, raw or finished material from normal sources of supply, labor, equipment or transportation, or any similar or different contingency beyond its reasonable control which would prevent or delay performance or make performance commercially impracticable whether or not the contingency is of the same class as those enumerated above, it being expressly agreed that such enumeration is non-exclusive; provided, however, that neither business downturn nor economic conditions will qualify as a contingency within the meaning of this Article 3. In the event any such contingency affects only a part of Seller's capability to produce and/or deliver Product, Seller will allocate production and/or deliveries among the requirements of all its affected customers and Seller's own requirements in a fair and reasonable manner. Buyer will pay or reimburse Seller for any additional costs incurred relating to the delivery of any Product to Buyer during a contingency. In the event that a contingency event prevents Seller from delivering Product or requires Buyer to pay any additional costs for Product then Buyer shall be allowed to seek Product from alternative sources during the period of the contingency.

4. **HEALTH, SAFETY AND LIABILITY.** Buyer acknowledges that there are hazards associated with Product, including the storage, use and handling thereof, and Buyer agrees that its employees, agents, contractors, and others concerned with Product are aware of such hazards. Buyer assumes all responsibility for the suitability and the results of using Product alone or in combination with other articles or substances and in any manufacturing, medical, or other process or procedures. Buyer will notify Seller of any hazards and safety procedures at Buyer's Location(s) and Buyer will notify Seller in advance of any anticipated construction, renovation, or change in operations in the area of any Product Storage System site so that any hazards associated with same can be minimized. Buyer will be responsible for complying with all relevant reporting obligations under all applicable laws, including the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. Sections 11001-11049 (EPCRA, also commonly known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III)), that result from the presence at Buyer's Location(s) of Product supplied under this Agreement. Buyer will warn and protect its employees, contractors and others exposed to the hazards posed by Buyer's storage, use and handling of Product. Seller will provide documents to Buyer containing Seller's safety and health information pertaining to Product, including Seller's Material Safety Data Sheet(s), and Buyer will incorporate such information into Buyer's safety program. Buyer hereby waives any right of subrogation that Buyer, any insurer of Buyer or any third party making a claim through Buyer, may have under this Agreement. Seller will not be liable to Buyer for any incidental, consequential, indirect, special or exemplary damages (including lost profits, sales or other similar damages) arising in connection with this Agreement without regard to the nature of the claim or the underlying theory or cause of action (whether in contract, tort, strict liability, equity or any other theory of law) on which such damages are based. Each party will indemnify and hold harmless the other party from and against any and all costs, fees (including reasonable legal fees and expenses), damages, liabilities and claims arising from the injury, illness or death of the indemnifying party's employees in any way related to any activities performed in connection with or Product supplied by Seller

under this Agreement, whether or not such injury, illness, or death is claimed to have been caused by, resulted from, or was in any way connected with the negligence of the party to be indemnified.

If awarded the business, the supply of Product to the Product Storage System will be contingent upon receipt of the attached customer owned Product Storage System checklist and completion of a site survey. There will be an \$895 Product Storage System site inspection fee. This fee is to ensure that your tank and facilities are safe for our drivers to deliver product. Should work be required on the tank, Linde will review the job scope and anticipated costs with Buyer prior to undertaking such work. Should the contract be awarded for multiple terms or extensions, Linde will follow the guidelines of the Compressed Gas Association CGA M-1, 2013; 13.1.2 for systems inspections. Buyer shall be responsible for all costs associated with such work. Billing will be based on the Price Schedule for Supply System Service in effect at that time of the work (current schedule attached).

Please indicate your acceptance by signing below that the above provisions are included and made a part of the Agreement between the parties. A signed copy will be returned to you for your records. This document becomes a part of the contract documents for Liquid Oxygen.

Our proposal is valid for thirty (30) days and is subject to the above terms and conditions. I hope that Linde can serve your industrial gas needs in the near future. If you have any questions, please feel free to contact me on (630) 320-4166.

Sincerely,

LINDE INC.

Diane M. McAvoy
Sr. Account Manager

CITY OF SANTA FE, NM

LINDE INC.

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

City of Santa Fe

Invitation to Bid

BDD Water Treatment Chemicals

Agreement

ITB # 21/39/B

NIGP Commodity Code: 885

Bid Due Date and Time: June 10, 2021 2:00pm, MST

Bidder MUST complete as applicable and sign the following in order for the Invitation to Bid (Bid) to be valid (type or print clearly):

Company Name: Linde Inc. Address: 7000 High Grove Blvd., Burr Ridge, IL 60527
DBA (if applicable): n/a
Co. Email: municipalbids@linde.com
Co. Phone No.: (630) 320-4166
NM Gross Receipts Tax # (CRS) 02-118143-00-8 Federal Tax ID # 06-1249050

Payment terms: N30 (e.g., Net 30. Discount will not be considered in computing the low bid, see “Terms and Conditions”)

F.O.B. Point must be Destination, unless otherwise indicated in the Invitation to Bid.

Contractor’s Delivery: 48 hours (May be considered in the award)

Authorized Signature: *Diane M. McAvoy* Print or type name: Diane M. McAvoy
Signatory Email: diane.mcavoy@linde.com Phone No: (630) 320-4166

* It is your responsibility as a bidder to ensure your bid is correct and accurate.

If you have any questions regarding this ITB please contact:

Procurement Specialist: **Jessica Chavez** Telephone: **505-629-8351** Email: **jjchavez@santafenm.gov**

No amendment will be issued later than three (3) days prior to the date for receipt of bids, except an amendment withdrawing the bids or one which includes postponement of the date for receipt of bids.

Amendment No. 1 Dated: 5/24/21 Amendment No. Dated:

If applicable, Bidder acknowledges receipt of the following amendment(s): Questions & Answers Memorandum

*Bids are subject to the “Terms and Conditions” shown on the attached pages of this document, and any additional bidding instructions or requirements. NOTE: if you decide not to bid, do not return this document.

*Exceptions to bid specifications are defined in the attached bid response letter.

Terms and Conditions
(Unless otherwise specified)

1. **General:** When the City of Santa Fe's Chief Procurement Officer (CPO) or his/her designee approves a purchase document in response to the bid, a binding contract is created.

2. **Variation in Quantity:** No variation in the quantity of any item called for by this order will be accepted unless such variation has been caused by conditions of loading, shipping, packing or allowances in manufacturing process and then only to the extent, if any, specified in this order.

3. **Assignment:**

a. Neither the order, nor any interest therein, nor any claim thereunder, shall be assigned or transferred by Contractor, except as set forth in Subparagraph 3b or as expressly authorized in writing by the CPO or his/her designee. No such assignment or transfer shall relieve Contractor from the obligations and liabilities under this order.

b. Contractor agrees that any and all claims for overcharge resulting from antitrust violations which are borne by the City of Santa Fe (City) as to goods, services, and materials purchased in connection with this bid are hereby assigned to the City.

4. **County Furnished Property:** City furnished property shall be returned to the City upon request in the same condition as received except for ordinary wear, tear and modifications ordered hereunder.

5. **Discounts:** Prompt payment discounts will not be considered in computing the low bid.

6. **Inspection:** Final inspection and acceptance will be made at the destination. Supplies rejected at the destination for nonconformance with specifications shall be removed at Contractor's risk and expense, promptly after notice of rejection.

7. **Inspection of Plant:** The CPO or his/her designee may inspect, at any reasonable time, the part of the Contractor's, or any subcontractor's plant or place of business, which is related to the performance of this contract.

8. **Commercial Warranty:** Contractor agrees that the supplies or services furnished under this order shall be covered by the most favorable commercial warranties Contractor gives for such to any customer for such supplies or services. The rights and remedies provided herein shall extend to the City and are in addition to and do not limit any rights afforded to the City by any other clause of this order. **Contractor agrees not to disclaim warranties of fitness for a particular purpose of merchantability.**

9. **Taxes:** Price shall not include state gross receipts tax or local option tax. Such tax or taxes shall be added at time of invoicing at current rate and shown as a separate item to be paid by the Requesting Department.

10. **Packing, Shipping, and Invoicing:**

a. The City's purchasing document number and Contractor's name, Requesting Department's name and location shall be shown on each packing and delivery ticket, package, bill of lading and other correspondence in connection with the shipments. The Requesting Departments' count will be accepted by the Contractor as final and conclusive on all shipments not accompanied by a packing ticket.

b. Contractor's invoice shall be submitted duly certified and shall contain the following information: order number, description of supplies or services, quantities, unit price and extended totals. Separate invoices shall be

rendered for each and every complete shipment.

c. Invoices must be submitted to the Requesting Department and NOT to the City Procurement Officer.

11. **Default:** The City reserves the right to cancel all or any part of this order without cost to the City, if Contractor fails to meet the provisions of this order and, except as otherwise provided herein, to hold Contractor liable for any excess cost occasioned by the City due to Contractor's default. Contractor shall not be liable for any excess costs if failure to perform the order arises out of causes beyond the control and without the fault or negligence of Contractor, such causes include but are not restricted to, acts of God or the public enemy, acts of the State or Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of subcontractors due to any of the above, unless the City shall determine that the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit Contractor to meet the required delivery scheduled. The rights of the City provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this order.

12. **Non-Collusion:** In signing this bid Contractor certifies he/she has not, either directly or indirectly, entered into action in restraint of free competitive bidding in connection with this offer submitted to the CPO or his/her designee.

13. **Nondiscrimination:** Contractor doing business with the City must be in compliance with the Federal Civil Rights Act of 1964 and Title VII of the Act (Rev. 1979) and the Americans with Disabilities Act of 1990 (Public Law 101-336).

14. **Penalties:** Sections 13-1-28 through 13-1-199 NMSA 1978, imposes civil and criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for bribes, gratuities, and kickbacks.

15. **Items:** All bid items are to be NEW and of most current production, unless otherwise specified.

16. **Payment for Purchases:** Except as otherwise agreed to: Pursuant to Section 13-1-158 NMSA 1978, within fifteen (15) days after the date the Requesting Department receives written notice from Contractor that the payment is requested for services, construction or items of tangible personal property delivered on site and received, the Requesting Department shall issue a written certification of complete or partial acceptance or rejection of the services, construction or items of tangible personal property. If the Requesting Department finds that the services, construction or items of tangible personal property are not acceptable, it shall, within thirty (30) days after the date of receipt or written notice from Contractor that payment is requested, provide to Contractor, a letter of exception explaining the defect or objection to the services, construction or delivered tangible personal property along with the details of how Contractor may proceed to provide remedial action. Upon certification by the Requesting Department that the services, construction, or delivered tangible personal property have been received and accepted, payment shall be tendered to Contractor within thirty (30) days after the date of certification. If payment is made by mail, the payment shall be deemed tendered on the date it is postmarked. After the thirtieth (30th) day from the date that written certification of acceptance is issued, late payment charges shall be paid on the unpaid balance due on the contract to Contractor at the rate of one and one half percent (1 ½%) per month. For purchases funded by state or federal grants to local public bodies, if the local public body has not received the funds from the federal or state funding agency, but has already certified that the services or items of tangible personal property have been received and accepted, payments shall be tendered to Contractor within five (5) working days of receipt of funds from that funding agency.

17. **Workers' Compensation:** Contractor agrees to comply with state laws and rules pertaining to Workers' Compensation benefits for its employees. If Contractor fails to comply with Workers' Compensation Act and applicable rules when required to do so, this Agreement may be terminated by the City.

19. **Contractor Personnel:** Personnel proposed in Contractor’s written bid to the Requesting Department are considered material to any work performed under this Agreement. Once a Purchase Order or contract has been executed, no changes of personnel will be made by Contractor without prior written consent of the Requesting Department. Replacement of any Contractor personnel, if approved, shall be with personnel of equal ability, experience, and qualifications. Contractor will be responsible for any expenses incurred in familiarizing the replacement personnel to insure their being productive to the project immediately upon receiving assignments. Approval of replacement personnel shall not be unreasonably withheld. The Requesting Department shall retain the right to request the removal of any of Contractor’s personnel at any time.

20. **Subcontracting:** Contractor shall not subcontract any portion of the Agreement without the prior written approval of the Requesting Department. No such subcontracting shall relieve the Contractor from its obligations and liabilities under this Agreement, nor shall any subcontracting obligate payment from the Requesting Department.

21. **Records and Audit:** Contractor shall maintain detailed time and expenditure records that indicate the date, time, nature, and cost of services rendered during this Agreement’s term and effect, and retain them for a period of three (3) years from the date of final payment under this Agreement. The records shall be subject to inspection by the Requesting Department and the City. The Requesting Department shall have the right to audit billings, both before and after payment. Payment for services under this Agreement shall not foreclose the right of the Requesting Department to recover excessive or illegal payments.

22. **Requesting Department:** Requesting Department is the Buckman Direct Diversion Board with the City of Santa Fe (“BDDDB”)

Subcontracts: The foregoing requirements for Contractor Personnel, Subcontracting, and Audit shall be inserted into all subcontracts from the prime contractor to the subcontractor.

Important Bidding Information

Submission of Bid: Due Date – June 10, 2021, at 2:00 P.M. (MST/MDT) at which time the sealed Bids will be recorded as received and opened.

The Bid is to be delivered to:

Submissions of all Invitation to Bids must be accomplished via email to: purchasing@santafenm.gov.

All Bids received after the due date and time will be rejected and returned unopened.

Chief Procurement Officer (CPO): If you are an individual with a disability and you require accommodations such as a hearing interpreter to attend our bid openings, please contact the CPO or his/her designee at least five (5) working days prior to the scheduled bid opening.

Any inquiries or requests regarding clarification of this solicitation shall be submitted **electronically** to the CPO or his/her designee in writing.

CPO contact information is:
Fran Dunaway, CPO, CNM
200 Lincoln Ave., Room 122
Santa Fe, NM 87505
fadunway@santafenm.gov

Bidders may contact ONLY the CPO or his/her designee regarding the terminology stated in the solicitation. Other City employees do not have the authority to respond on behalf of the City.

Bidders shall promptly notify the CPO or his/her designee of any ambiguity, inconsistency, or error which they may discover upon examination of the bid. Any response made by the City will be provided in writing to all contractors by addendum, no verbal responses shall be authoritative.

All Bidders must notify the CPO or his/her designee if any employee(s) of the requesting Department or the office of CPO have a financial interest in the Bidder:

X **No financial interest** **Yes financial interest**

If yes specify by name: _____

The CPO or his/her designee shall have the right to reject any or all bids, and in particular to reject a bid not accompanied by the data required by this bidding document, or a bid which is in any way incomplete or irregular.

Where a brand name or equal is indicated, it is for the purpose of describing the standard of quality, performance, and characteristics desired and is not intended to restrict competition. “No substitute” specifications may be authorized ONLY if required to match existing equipment.

If bidding “equivalent” bidders must be prepared to furnish “complete data” upon request, preferably with bid, to avoid delay in award.

If any Bidder is of the opinion that the specifications as written preclude him from submitting a bid on this ITB, it is requested that his opinion be made known to the CPO or his/her designee, in writing, at least seven (7) days prior to the bid opening date.

Bidders must, upon request of the CPO or his/her designee, provide information and data to prove that the financial resources, production of service facilities, service reputation and experience are adequate to make satisfactory delivery of the materials and/or services. the CPO or his/her designee reserves the right to require a Bidder to furnish a Performance Bond prior to award, where the Bidder is unable to furnish the required information or data, or for other reasons which would insure proper performance by the Bidder.

Unless otherwise indicated in the bid specifications, samples of the items, when required, shall be free of expense to the BDD/City. Samples not destroyed or mutilated in testing will be returned upon request, at Bidders expense. Each sample must be labeled to clearly show the bid number and item number that it pertains to. Unsolicited bid samples or descriptive literature, which is submitted at the Bidder’s risk, will not be returned.

Determination of Lowest Bidder – Following determination of product acceptability, if any is required, bids will be evaluated to determine which Bidder offers the lowest cost to the BDD/City in accordance with the specifications and terms & conditions set forth in the Bid. The BDD/City reserves the right to award this Bid in total; by groups of items; on the basis of individual items; any combination of these which could result in a multiple award; or as otherwise specified in bid specifications; whichever, in his/her judgment, best serves the interest of the BDD/City.

The CPO or his/her designee reserves the right to accept and/or reject any and all bids, to waive technical irregularities, and to award to the Bidder whose bid is deemed to be in the best interest of the BDD/City.

Special Notice – To preclude any possible errors and/or misinterpretations, bid prices must be affixed legibly in ink or typewritten. Corrections or changes must be signed or initialed by Bidder prior to the scheduled bid opening; failure to do so will be just cause for rejection of bid.

Bids may be withdrawn upon receipt of written request, prior to scheduled bid opening for the purpose of making any corrections and/or changes; such corrections must be properly identified and signed or initialed by Bidder. Resubmittal must be prior to scheduled bid opening for consideration.

After bid opening, no modifications on bid prices or other provisions of bid shall be permitted. A low Bidder alleging a material mistake of fact after bids have been opened may be permitted to withdraw the bid upon written request prior to award at the discretion of the CPO or his/her designee.

F.O.B. Destination – Means goods are to be delivered to the destination designated by the Requesting Department which is the point at which the Requesting Department accepts ownership or title of the goods. Laws of New Mexico specifically prohibit acceptance of ownership of goods in transit. Any exception to F.O.B. Destination may cause bid to be declared nonresponsive.

Statement of Work - Under the terms and conditions of this Agreement the BDD/City may issue orders for items and/or services described herein. The terms and conditions of this Agreement shall form a part of each order issued hereunder.

The items and/or services to be ordered shall be as listed in the Price Schedule. All orders issued hereunder will bear both an order number and this Agreement number.

Only written signed orders are valid under this Agreement.

Items and/or services furnished hereunder shall conform to the requirements of specifications and/or drawings applicable to items listed under the Price Schedule. Orders issued against this schedule will show the applicable Agreement item(s), number(s), and price(s); however, they may not describe the item(s) fully.

The prices quoted herein represent the total compensation to be paid by the BDD for the goods and/or services provided including any and all labor, equipment, tools, materials, taxes, permits, licenses, or other costs necessary to complete the services or goods provided.

Shipping and Billing Instructions

Contractor shall ship in accordance with the following instructions: Shipment shall be made only against specific orders which the Requesting Department may place with Contractor during the term; Contractor shall enclose a packing list with each shipment listing the order number, Agreement number and the commercial parts number (if any) for each item; delivery shall be made as indicated by the Requesting Department. If contractor is unable to meet stated delivery the CPO or his/her designee must be notified.

Termination

The Requesting Department may terminate this Agreement for convenience or cause. Contractor may only terminate this Agreement based upon the Requesting Department's uncured, material breach of this Agreement. Contractor shall give the Requesting Department written notice of termination at least thirty (30) days prior to the intended date of termination, which notice shall (i) identify all the Requesting Department's material breaches of this Agreement upon which the termination is based and (ii) state what the Requesting Department must do to cure such material breaches. Contractor's notice of termination shall only be effective (i) if the Requesting Department does not cure all material breaches within the thirty (30) day notice period or (ii) in the case of material breaches that cannot be cured within thirty (30) days, the Requesting Department does not, within the thirty (30) day notice period, notify

Contractor of its intent to cure and begin with due diligence to cure the material breach. Termination of this Agreement, however, shall not affect any outstanding orders. This provision is not exclusive and shall not waive other rights and remedies afforded either party in the event of breach of contract or default. In such instances the Agreement may be cancelled effective immediately.

Amendment

This Agreement may be amended by mutual agreement of the CPO or his/her designee and Contractor upon written notice by either party to the other. An amendment to this Agreement shall not affect any outstanding orders issued prior to the effective date of the amendment as mutually agreed upon, and as published by the CPO or his/her designee. Amendments affecting price adjustments and/or the extension of this Agreement's expiration date are not allowed unless specifically provided in the bid and agreement specifications.

Hold Harmless and Indemnification Clause:

Contractor shall indemnify and hold harmless the BDD/City, its officers and employees against liability, claims, damages, losses, or expenses arising out of bodily injury to persons or damage to properties caused by, or resulting from, Contractor's and/or its employees, own negligent acts or omissions while Contractor, and/or its employees perform or fail to perform its obligations and duties under the terms and conditions of this Agreement. This Hold Harmless and Indemnification Clause is subject to the immunities, provisions, and limitations of the Tort Claims Act (Section 41-4-1, et seq., NMSA 1978 Comp. and Section 56-7-1 NMSA 1978 Comp.) and any amendments thereto.

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create the public or any member hereof a third-party beneficiary or to authorize anyone not a party to the Agreement to maintain a suit for wrongful death, bodily and/or personal injury to persons, damage to properties and/or other claims whatsoever pursuant to the provisions of this Agreement.

Quantities:

Quantities are estimated for bidding purposes only. Actual quantities may be significantly less or slightly more, depending on the needs of the BDD/City.

Specifications:

Establish an Agreement for the City on Behalf of the Buckman Direct Diversion Board for the delivery of Water Treatment Chemicals.

Item 1: Ferric Chloride

Liquid Ferric Chloride (FeCl₃) is an orange-brown, acidic, corrosive aqueous solution. The specific gravity of the solution shall be in the range of 1.3 to 1.5. The specific gravity will vary with the FeCl₃ concentration. Concentration may be varied with the season and point of destination to prevent crystallization during cold weather. Ferric Chloride solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers.

Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight scale device. Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

LIQUID FERRIC CHLORIDE QUALITY

Total FeCl₃ by weight 28% to 47%

Total iron as Fe 9.6% to 16.2%

Not more than 2.5% of the total iron shall be in the ferrous state.

The free acid, expressed as HCL, shall not exceed 1.0%.

The solution shall not contain more than 0.2% total insoluble matter by weight. BDD may require a sample from each load to check appearance and test specific gravity.

Supplier shall furnish a table showing the percentage of ferric chloride for different specific-gravity readings. BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample.

Product must meet ANSI/AWWA Standard Specification B407-05 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 800,000 lbs.

Item 2: Sodium Hydroxide

Liquid Sodium Hydroxide supplied shall contain approximately 50 percent or 25 percent sodium hydroxide (NaOH). The 50% sodium hydroxide solution begins to crystallize at approximately 540 F and the 25% solution begins to crystallize at approximately 80 F. **Concentration shall be varied with the season and point of destination, as per the recipient request, to prevent crystallization during cold weather.**

Sodium Hydroxide solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers. Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

BDD may require a sample from each load to check appearance and test specific gravity. BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample.

LIQUID SODIUM HYDROXIDE QUALITY

Liquid Sodium Hydroxide supplied shall contain approximately 50 percent or 25 percent sodium hydroxide (NaOH) as specified above for seasonal delivery.

Product must meet ANSI/AWWA Standard B501-08 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 600,000 lbs.

**Item 3: Polymer
Polydyne Inc. Clarifloc A-210P Polymer OR Equal**

POLYMER solution is to be ordered in 275 Gallon tote quantities. Deliveries will be made to BDD Water Treatment Facility dock area.

Delivery off-loading process will be by fork truck. **Empty used tote containers will have to be removed by Bidder and disposed of.**

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

OTHER POLYMER

Bidders may submit bids based on one or more alternate polymer products provided that the bidder demonstrate the performance of each alternate polymer product(s) at the BDD Water Treatment plant at no additional cost or obligation to the BDD. The full-scale demonstration of the polymer product(s) will be at no cost to the BDD and will use the BDDs polymer feed and dewatering equipment. The performance criterion for this demonstration is as follows:

A. The polymer shall be tested in the dewatering of Ferric Chloride flocculated water treatment plant sludge. The conditions and performance requirements shall be as follows:

1. Minimum solids feed rate: 120 gpm at 5.0 percent solids.
2. Maximum hydraulic loading rate: 350 gpm at 2.0 percent solids.
3. Maximum solids loading rate: 3,300 dry pounds per hour.
4. Minimum cake solids: 20 percent.
5. Minimum solids capture: 95 percent of the sludge feed total solids.
6. Maximum polymer dosage as active polymer: 12 pounds per dry ton of solids.
7. Minimum demonstration test run time at steady state: 2 hours continuous.

B. Percent Solids Capture = $(C/F) \times [(F-E)/(C-E)] \times 100$ Where C = Dewatered sludge total solids in mg/kg
F*= Feed TS in mg/kg, excluding any dilution flow from polymer solution flow; E = Centrate total suspended solids (TSS) in mg/kg, excluding any dilution from polymer solution flow.

14 * Feed refers to sludge feed excluding active polymer and polymer dilution water flow rates. A polymer may be selected from those demonstrated to be the most cost effective at meeting the above criteria. If selected, the polymer is to be ordered in 275 Gallon tote quantities. Deliveries to be made to BDD Water Treatment Facility plant site. Delivery off-loading process will be by fork truck.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

POLYMER QUALITY

BDD may require a sample from each load to check appearance and test specific gravity. BDD will provide sample container if sample is required. If sample is required, the driver will be required to obtain a representative sample.

Product must be certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 25,000 lbs.

Item 4: Zinc Orthophosphate (ZOP)

Aqueous ZOP solutions are clear and have a slight acid odor.

ZOP solutions are miscible with water in all proportions.

The specific gravity of the solutions will vary depending on the ratio of Zn to PO₄³⁻ and can range from 1.20 to 1.70 at 720 F Zinc Orthophosphate solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers. Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

ZINC ORTHOPHOSATE QUALITY

BDD may require a sample from each load to check appearance and test specific gravity. BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample.

Product must meet ANSI/AWWA Standard Specification B506-06 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 30,000 lbs.

Item 5: Calcium Thiosulfate Captor® Calcium Thiosulfate or Equal

Calcium thiosulfate solution is a non-hazardous liquid with a typical pH of 6.5 - 8.0. The liquid solution is water-white to pale yellow in color and may have a slight odor of fresh concrete. The solution of Captor is considered stable in normal transportation. Solutions range from 20 to 30% strength by weight and weigh 10.0 to 11.0 pounds per U.S. gallon (1.198 to 1.318 gm/cc).

Calcium Thiosulfate solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers. Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

CAPTOR Calcium Thiosulfate QUALITY

BDD may require a sample from each load to check appearance and test specific gravity.

BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample.

Product must be certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 20,000 lbs.

Item 6: Sulfuric Acid

Sulfuric Acid H₂SO₄ - Sulfuric Acid solution is to be ordered in 250 gallon tote quantities. Deliveries will be made to BDD Water Treatment Facility dock area. Delivery off-loading process will be by fork truck only. **Empty used tote containers will have to be removed by Bidder and disposed of.**

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device. Delivery shall be within one (1) week of ordering.

Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

SULFURIC ACID QUALITY

Total H₂SO₄% by weight 93%

BDD may require a sample from each load to check appearance and test specific gravity.

BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample. Product must be certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 15,000 lbs.

Item 7: Liquid Oxygen (LOX)

Liquid Oxygen (LOX) is a colorless, odorless, tasteless, diatomic gas. Oxygen has a density of 1.326 g/L at 700 F and 760 mm of mercury.

Liquid Oxygen is to be ordered in bulk truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the oxygen concentration, the water and hydrocarbon contents, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device, or a liquid meter ticket. Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

LIQUID OXYGEN QUALITY

LOX shall have an oxygen content of at least 99.0 percent, by weight. The water content of the LOX shall not exceed a dew point of -80°F at the time of delivery.

The total hydrocarbon content (as methane) of the LOX shall not exceed 40 ppm (v/v) at the time of delivery. Other impurities include nitrogen, argon, and other inert gases. The sum of these impurities shall not be sufficient to prevent achieving the minimum oxygen content specified above.

Product must meet ANSI/AWWA Standard Specification B304-08 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 10,000,000 cu.ft.

Item 8: Hydrofluorosilicic Acid

Hydrofluorosilicic Acid supplied shall be clean and free of visible suspended matter and shall be white to straw yellow in color.

Hydrofluorosilicic Acid solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers. Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

HYDROFLUOROSILICIC ACID QUALITY

Total Hydrofluorosilicic acid % by weight 20% to 30%

Maximum free acid, expressed as HF, shall not exceed 1.0%.

BDD may require a sample from each load to check appearance. BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample. Product must meet ANSI/AWWA Standard Specification B703a-08 Addendum to B703-06 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 16,000 lbs.

Item 9: Sodium Hypochlorite

Sodium Hypochlorite is a clear, pale yellow or greenish liquid with a chlorine odor. Sodium Hypochlorite solution is to be ordered in tanker truck load quantities. Deliveries to be made to BDD Water Treatment Facility plant site in tank trailers. Delivery off-loading process will be by truck powered air pressure only.

An Affidavit of Compliance, and Certified Analysis to assure quality, with the chemical concentration, shall accompany each shipment. Each shipment shall also be accompanied by a weight certificate from a certified weight station device. All invoices shall be priced in gallons.

Delivery shall be within one (1) week of ordering. Delivery will be Monday through Friday between the hours of 8:00 A.M. and 2:00 P.M. only. Offloading of chemicals will be in the presence of Staff only. **Supplier is responsible for all spill prevention during unloading and all cleanup and disposal for any unloading spills.**

SODIUM HYPOCHLORITE QUALITY

Total sodium hypochlorite% 10% to 12.5%

The solution shall not contain more than 0.15% insoluble matter by weight.

BDD may require a sample from each load to check appearance. BDD will provide sample container if sample is required. If sample is required the driver will be required to obtain a representative sample. Product must meet ANSI/AWWA Standard Specification B300-04 and certified to NSF/ANSI 60 Drinking Water Treatment Chemicals – Health Effects for use in drinking water. Estimated use per year is 60000 gal.

Method of Award:

This Agreement is established as a source and convenience of the City on behalf of BDDB. Multiple awards will be made in the best interest of the BDDB.

Term:

The term of this agreement shall be for four (4) years from date of award. This agreement shall not exceed four (4) years. The chemicals covered by this bid request include one or more of the following water treatment chemicals:

- Ferric Chloride
- Sodium Hydroxide
- Zinc Orthophosphate
- Sulfuric Acid
- Liquid Oxygen
- Sodium Hypochlorite
- Hydrofluorosilicic Acid
- Calcium Thiosulfate
- Polymer

General Conditions:

The Requesting Department reserves the right to purchase materials from any of the awarded Contractor's based on the needs of the Requesting Department. The Requesting Department will determine and use the Agreement item which best serves the Requesting Department's needs, based on cost, delivery time, schedule of work and quality of materials. All decisions by the Requesting Department will be final.

Escalation/Reduction Clause:

In the event of a product cost increase/decrease, an escalation/reduction request will be reviewed by the Requesting Department and the CPO or his/her designee on an individual basis. This measure is not intended to allow any increase in profit margin, only to compensate for an actual cost increase.

Effective dates for increase/decrease will not be any sooner than fifteen (15) days from the request is received by the Requesting Department and the CPO or his/her designee. To facilitate prompt consideration, all requests for price increases must include all information below:

1. Contract Item Number
2. Current Item Price
3. Proposed New Price
4. Mill/Supplier Notification of price increase/decrease indicating percentage of increase/decrease including reason for increase/decrease.

This escalation policy will be terminated as soon as the market stabilizes.

Contractors Note:

*The conditions and specifications set out in the Bid are inseparable and indivisible. Any contractor, by submitting a Bid, agrees to be bound by all such conditions or specifications. All conditions and specifications in the Bid and all other documents required to be submitted, shall be returned by the contractor in his/her Bid package. Failure to do so or any attempt to vary or change the conditions or specifications of the Bid shall, at the discretion of the City, constitute grounds for rejection of the entire Bid. The City will not accept any added stipulation by the vendor. Contractor(s) shall be considered an independent contractor and not an employee of the City. However, directions as to time and place of performance and compliance with the rules and regulations may be required by the Requesting Department.

*Exceptions to bid specifications are defined in the attached bid response letter.

The remainder of this page was left blank intentionally

Price Schedule:

Bids shall include all costs of delivery to:

**Buckman Direct Diversion Board 341 Caja Del Rio
Santa Fe, NM 87506**

Item #	Description	Price Per LB	Price	Estimated QTY	Cost
Item 1	Ferric Chloride	Price per LB		800,000 LBS	
Item 2	Sodium Hydroxide	Price per LB 25%		250,000 LBS	
Item 3	Polymer	Price per LB		25,000 LBS	
Item 4	Zinc Orthophosphate	Price per LBS		30,000 LBS	
Item 5	Calcium Thiosulfate	Price per LB		20,000 LBS	
Item 6	Sulfuric Acid	Price per LB		15,000	
Item 7	Liquid Oxygen	Price per CU.FT	\$0.0129/cf	10,000,000 CU. FT	\$129,000.00
Item 8	Hydrofluorosilicic Acid	Price per LB		25,000 LBS	
Item 9	Sodium Hypochlorite	Price per Gallon		50,000 Gallons	

BIDDER'S:

Linde Inc.

Firm

7000 High Grove Blvd., Burr Ridge, IL 60527

Address

Diane M. McAvoy *
Authorized Signature

Diane M. McAvoy
Print Name

Sr. Account Manager
Position

(630) 320-4166
Phone Number

(630) 320-4507
Fax Number

June 4, 2021
DATE

N.M. RESIDENT PREFERENCE NUMBER (if applicable): n/a

TWO COMPLETE COPIES OF THE BID SUBMITTAL IS REQUIRED

*Exceptions to bid specifications are defined in the attached bid response letter.



**Buckman Direct Diversion Water Treatment Plant –Chemicals
RFB '21/39/B
Close Date 6/10/2021
Questions and Answers**

Regarding Item 4: Zinc Orthophosphate:

Q. What is the current Zn to PO4 ratio being used by Santa Fe?

A. Zn 2.5% to 4.0% and PO4 34%-36%

Q. How many pounds are delivered per shipment?

A. 45,000 LBS

Q. What was Santa Fe's annual usage last year?

A. BDD uses about 20,000/year

Q. Who is the current supplier and what is the current price?

A. Sterling Water Technologies, LLC / 52 cents/lb delivered.

Q Who is the City's current liquid oxygen supplier?

A. Airgas

Q. what is the City's current liquid oxygen price?

A. .013 per CF

Q. What was the City's actual consumption of liquid oxygen in 2020?

A. Approximately 42,000 gallons

Q. According to our records, the City still had extensions left on the previous contract. Can the City share why the contract was not extended?

A. When the RFP for all chemicals was originally issued, Liquid Oxygen received no bids, the contract was not extended for scheduling purposes.

Q. Is the current liquid oxygen tank customer owned?

A. Yes

Q. Is the current liquid oxygen tank still a 6,000 gallon tank?

A. Yes





Certificate of Analysis - COA

LINDE INC.

Customer Name

Customer Address

Linde Number:

Product Label: Liquid Oxygen

Lot Number:

Component	Specification	Analytical Result	Analytical Method
Assay	>= 99.5 %		Servomex 4100
H2O	<= 6 PPM		Analyzer
Odor	Is None Detected		Organoleptic
Total Hydrocarbons	<= 40 PPM		Analyzer

LDL = Lower Detection Limit of Analyzer

Authorized Linde Representative _____



Order #: 12345678

123-45678

Date

Proof of Delivery

LINDE INC
Delivered by:

Linde #:
Customer:
Measurement Site:

Customer Prod ID:

Liquid Oxygen Air Liquefaction
Produced by the air liquefaction process

PO#:
Release #:
Product Label: Liquid Oxygen
Lot Number:

Route #:
Tractor #:
Trailer #:
Driver 1:
Driver 2:

Service Agreement #: Location:

Carrier: Well Number:

Liquid Delivery

Date/Time Arrived:

Date/Time Depart:

Meter	U/M	Scale	U/M
Finish:	_____	Gross Weight:	_____
Start:	_____	Tare Weight:	_____
		Net Weight:	_____
		Scale Ticket #:	_____

Delivery Volume:



Order #: 12345789

Date

123-45678

Proof of Delivery

NSF-ANSI-CAN 60 by WQA
MAXIMUM USE: N/A



C US

Driver or Deputy Weighmaster: _____

Order contact:

Water Quality Association Gold Seal Certificate

Linde Inc

175 East Park Drive
Tonawanda, New York United States

Facility: Linde Loveland

Certification Date: March 30, 2021

Authorized By: *Caren L. Settler*

Caren L. Settler
Process Improvement Manager

Water Quality Association
2375 Cabot Drive
Lisle, IL 60532, USA



Products are evaluated according to Product Certification Scheme Type 5, as defined in ISO/IEC 17067 (current version).
This Certificate, or any part thereof, may not be used in a misleading manner and validation of its use is contingent upon the Official WQA web-listing.
Please contact your Project Leader for product expiration terms. All Standards referenced in the Product Certification Schemes by Standard Name.

Water Quality Association Official Gold Seal Listing

Granted to the following company:

Linde Inc
175 East Park Drive
Tonawanda, New York 14150 United States

For the Facility Located at:

Linde Loveland
950 Des Moines Ave.
Loveland, Colorado 80537 United States

The WQA Gold Seal Certification Department has issued certification for the following model(s) to the standard(s) below. Only models that appear in the official listing are authorized to bear the WQA Gold Seal.

NSF/ANSI/CAN 60 - 2018: Drinking Water Treatment Chemicals - Health Effects

Liquid Oxygen

Notice: To request any changes to the certified model(s), please request a Change to Certified Product (CCP) form. Examples include any change to the wetted parts or formulations such as supplier or material types, literature, or a change in company name. This list is not all inclusive. Failure to submit documentation regarding changes may result in non-compliance with the standard(s) as well as de-listing of the affected models.



Customer-Owned Tank Checklist

NOTE: This form must be completed before Linde fills your tank. Accurate completion of this checklist ensures safe operating conditions for the customer and for Linde drivers.

Customer Name _____

Customer Address _____
(Street, City, State, Zip)

Tank Information

Is this tank outdoors? Yes No **(IF NO, STOP!! CALL CUSTOMER SERVICE.)**

Tank Manufacturer and Model No. _____

Manufacturer's Serial No. _____ National Board No. _____

Product _____ Tank Capacity (gallons) _____ Tank fills at _____ inches

Inner Tank Material of Construction* _____

Tank Maximum Allowable Working Pressure (psig) _____

Tank Pressure Relief Valve – Set Pressure (psig) _____ Size _____

Rupture Disk (if applicable) – Set Pressure (psig) _____ Size _____

CO₂ Fill Connection Size: CGA 1½" CGA 2" Other _____

* Linde Customer Service Personnel: Refer to Customer Service Standards database, Cross-Functional Work Processes view, Section 01.06, for the policy on cryogenic tanks with aluminum inner containers in oxygen service.

Safety Parameters

Customer or Tank Owner: Please verify that each of the following safety conditions are met. (Check box that applies.)

1. Tank has manufacturer's nameplate that indicates that tank meets ASME code requirements, is suitable for the product service indicated above, specifies maximum allowable working pressure (MAWP), and specifies maximum and minimum working temperature.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
2. Tank is equipped with ASME coded pressure relief valve(s) sized to relieve product at the MAWP. Each relief valve meets the capacity requirements specified in the manufacturer's instruction manual.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
3. Tank is equipped with rupture disk(s) sized to relieve product at tank test pressure.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Pressure relief devices have been inspected and will protect all equipment against damage if the pressure should rise to MAWP. Also: a) There is no isolation valve between tank and relief devices. b) No cracks or other mechanical damage are present. c) No leaks are present, as evidenced by frost, sound, or escaping gas. d) Adjacent piping is not deformed. e) Relief device outlets are open and free to discharge. f) Relief devices discharge away from areas where personnel operate valves. g) Relief devices do not discharge against the tank surface.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
5. If tank is vacuum-jacketed, it is equipped with vacuum jacket relief devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. The pipes and valves that may be exposed to cryogenic liquid or gas are made of aluminum, brass or bronze alloys, copper, or stainless steel (carbon steel is acceptable for CO ₂ ; PVC is not acceptable).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
7. On argon, nitrogen, or oxygen tank, a trycock (95% valve) is installed and verified to be unobstructed. Note: Contents gauge does not qualify as a fill termination device on these tanks.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	



Customer-Owned Tank Checklist

8. Tee fix (I): Union Carbide and Taylor Wharton 500 – 6,000 gallon tanks manufactured between 1964 and 1983 had the stainless steel liquid line slip-fitted and braised over the branch connection of the brass tee. This configuration is not acceptable.			
8a. If within this manufacturing range, has the tee fix been retrofitted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8b. If within this manufacturing range and not retrofitted, is the temporary clamp and support fix in place?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. Tee fix (II): Union Carbide and Taylor Wharton vertical and horizontal 9,000 – 13,000 gallon tanks up to 355 psig MAWP manufactured between 1970 and 1985 had the stainless steel liquid and gas lines joined to a brass tee. This configuration may not be acceptable.			
9a. If within this manufacturing range and construction, have the joints been inspected for leakage?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9b. If within this manufacturing range and construction, and if either of the joints have leaked, have the tees been repaired/replaced?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
10a. Is this vessel compliant with CGA Position Statement PS-8 regarding overpressure protection?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
10b. If answer to 10a is Yes, what type of OPP device is installed? _____			
11. Are all areas where liquid product can be trapped protected from overpressurization by a block line relief device?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Customer Representative _____ Date _____

Customer Representative Signature (required) _____

Phone No. _____ Fax No. _____

Linde Number (to be filled in by Linde Customer Service) _____

Return this form to Linde Customer Service. Fax No. _____

Direct any questions to Linde Customer Service at _____



Price Schedule for Supply System Service



Commitment to Excellence

Linde is focused on helping our customers obtain the products and services needed to help ensure that their facilities operate as efficiently and safely as possible, with minimum interruptions. As part of our commitment, Linde offers special services and support.

If any of the services listed are needed, please contact us at **1-844-44LINDE (1-844-445-4633)** and a member of our Customer Service team will provide you with next steps.

- Customer-requested tank painting
- Relocation of equipment (permanent or temporary)
- Modifications to existing equipment
- Installation of accessory equipment
- Vaporizer de-icing
- Repair of customer-caused damage
- Pressure washing
- Services on customer-owned tanks
- Annual tank inspection
- Pressure adjustment
- Piping work
- Repairs associated with improper use of Supply System
- Installation, relocation, or removal of permanent or temporary Supply System
- Custom services completed on site

The following charges apply to services performed on Linde or customer owned Supply Systems for argon, carbon dioxide, helium, hydrogen, nitrogen, and oxygen. If you are unsure if services performed on your Supply System will be billed to you, please contact your Account Manager. Billable services performed will be invoiced per charges in the schedule and are subject to change.

Customer Service Technician Rates for All Services

Labor, portal-to-portal, weekdays	\$200/hour, \$800 minimum charge
Labor, portal-to-portal, weekends & holidays	\$300/hour, \$1,200 minimum charge
Travel, portal-to-portal	\$2.00 per mile
Additional charges may apply, including parts and other miscellaneous expenses	
Crane/freight charges will be applied if required (e.g. Supply System installations, removals, relocations)	
Warm Tank Fill (including labor and miles)	\$1,500/tank Any additional work required, apart from the warm tank fill, will be carried out at an additional cost.
Customer Owned Tank Inspection (including labor & miles)	\$895/supply system Any additional work required will be carried out at an additional cost.

A Purchase Order number is required before any services are performed. Please be prepared to provide a Purchase Order number when calling **1-844-44LINDE (1-844-445-4633)** for service requests.

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.



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- 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/m ³ (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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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
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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

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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

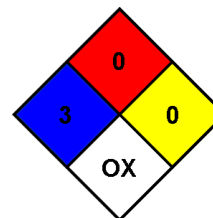
: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA instability

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

NFPA specific hazard

: OX - Materials that posses 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.