

CITY OF ANN ARBOR  
INVITATION TO BID



**Water Treatment Chemical - Carbon Dioxide (CO<sub>2</sub>)**

**ITB No. 4788**

**Due Date: April 29, 2026 by 2:00 P.M. (Local Time)**

Water Treatment Services

Issued By:

City of Ann Arbor  
Procurement Unit  
301 E. Huron Street  
Ann Arbor, MI 48104

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*City of Ann Arbor Standard Purchase Order Terms and Conditions*

*City of Ann Arbor Vendor Conflict of Interest Disclosure Form*

*City of Ann Arbor Non-Discrimination Ordinance Declaration Form and Notice*

## **INSTRUCTIONS TO BIDDERS**

### **General**

The City of Ann Arbor's Procurement Office is soliciting bids for the purchase of the chemical carbon dioxide (CO<sub>2</sub>) for use by the City's Water Treatment system based on the specifications provided herein. At this time, estimated start date is on or before July 1, 2026.

The pricing provided for this ITB shall be firm for one (1) year. Upon mutual agreement between the City and the vendor the pricing provided in this ITB may be extended for three (3) additional one (1) year periods not to exceed four (4) years in total. Any price adjustments in shall be tied to the producer price index for Industrial gas manufacturing Carbon dioxide: PCU3251203251204 and renewals will be evaluated if they are in the best interest of the City.

CO<sub>2</sub> must be supplied to the City Water Treatment Plant, fob destination, freight prepaid. The selected bidder will be responsible for transferring the product from the transport vehicle to the City storage vessel.

Each bidder shall provide the City of Ann Arbor with a complete copy of the U.S. Department of Occupational Safety & Health Administration Safety Data Sheet (SDS) for each product bid, a typical product specifications sheet, and an affidavit from the manufacturer or vendor that the carbon dioxide furnished under the purchaser's orders meets or exceeds the specifications of this standard, ANSI/NSF Standard 60, and AWWA Standard B510-18.

Any Bid which does not conform fully to these instructions may be rejected.

### **Preparation of Bids**

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on a clearly marked "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

### **Questions or Clarifications / Designated City Contacts**

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on or before **April 21, 2026 by 5:00 P.M. (local time)** and should be addressed as follows:

Specification/Scope of Work questions emailed to Becky Lahr, Drinking Water Quality Manager, Water Treatment Services Unit at [RLahr@a2gov.org](mailto:RLahr@a2gov.org)

Bid Process and Compliance questions emailed to Colin Spencer, [CSpencer@a2gov.org](mailto:CSpencer@a2gov.org)

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of Colin Spencer at [cspencer@a2gov.org](mailto:cspencer@a2gov.org) after discovery as possible. Further, the contractor and/or service provider shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

## Site Inspection

**On or prior to April 21, 2026**, a bidder may inspect the City's site and equipment. Inspections are highly encouraged and are by appointment only during business hours (9:00 a.m. to 3:00 p.m). Appointments can be scheduled by email to Becky Lahr, Drinking Water Quality Manager, Water Treatment Services Unit at [RLahr@a2gov.org](mailto:RLahr@a2gov.org). No appointments will be scheduled after the deadline.

## Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) [www.mitn.info](http://www.mitn.info) and/or City of Ann Arbor web site [www.A2gov.org](http://www.A2gov.org) for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

## Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **April 29, 2026 by 2:00 P.M. (Local time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

**Each Bidder must submit one (1) original printed bid and one (1) bid copy in a sealed envelope clearly marked: ITB No. 4788 – Water Treatment Chemical - Carbon Dioxide.**

**Bids must be addressed and delivered to:**

City of Ann Arbor  
Procurement Unit,  
c/o Customer Services, 1<sup>st</sup> Floor  
301 East Huron Street  
Ann Arbor, MI 48104

All Bids received on or before the Due Date will be publicly opened and recorded immediately. No immediate decisions are rendered.

**The following forms provided within this ITB Document should be included in submitted bids.**

- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

**Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.**

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is open to the public Monday through Friday from 8am to 5pm (except holidays). The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

## Award

The City intends to award a Contract/Purchase Order to the lowest responsible Bidder(s) providing the best value to the City. The City may, at its sole discretion, award line-by-line in the best interest of value to the City.

Responsible bidder means a bid submitted, which conforms in all aspects of the requirements set forth in the invitation to bid. All aspects could include references, past experience, past performance, and qualifications.

## Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on [www.MITN.info](http://www.MITN.info) and obtain an official Bid.

## Taxes

Municipalities are exempt from Michigan State Sales and Federal Excise taxes. Do not include such taxes in the bid figure(s). The City will furnish the successful bidder with tax exemption certificates when requested.

## Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of one-hundred and twenty (120) days.

## Non-Discrimination Requirements

All contractors proposing to do business with the City shall satisfy the non-discrimination administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

## Conflict Of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

## Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

## Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

## Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

*Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by the Offeror to initiate contact with anyone other than the Designated City Contacts provided herein that the prospective Offeror believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.*

## Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

## Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

## Environmental Commitment

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote and encourage the City's commitment to the environment.

The City strongly encourages potential vendors to bring forward tested, emerging, innovative, and environmentally preferable products and services that are best suited to the City's environmental principles. This includes products and services such as those with lower greenhouse gas emissions, high recycled content, without toxic substances, those with high reusability or recyclability, those that reduce the consumption of virgin materials, and those with low energy intensity.

As part of its environmental commitment, the City reserves the right to award a contract to the most responsive and responsible bidder, which includes bids that bring forward products or services that

help advance the City's environmental commitment. In addition, the City reserves the right to request that all vendors report their annual greenhouse gas emissions, energy consumption, miles traveled, or other relevant criteria in order to help the City more fully understand the environmental impact of its procurement decisions.

## Chemical Delivery or Supply Insurance Requirements

Insurance: Vendor shall procure and maintain the following insurance during the term of this contract and its performance:

(1) Worker's compensation insurance as required by law; and automobile insurance (for all owned, hired, and non-owned vehicles) with \$1,000,000 limit;

(2) Commercial general liability insurance, written on a per occurrence basis with \$1,000,000 in coverage per occurrence and \$2,000,000 aggregate;

(3) Umbrella liability insurance over all other required insurance, written on a per occurrence basis with \$1,000,000 limit;

(4) Contractor pollution liability insurance, written on a per occurrence basis, with \$1,000,000 limit including products pollution liability and transportation pollution liability for all deliveries.

For all required insurance, the City shall be named an additional insured without added exclusions or limiting endorsements that diminish the City's protections. Further, all insurers shall be authorized to do business in Michigan, and shall carry and maintain a minimum rating of "A-" from A.M. Best and Co., with a minimum financial size category of "V." All required insurance shall be primary to any insurance the City has (including self-insured retention), and any insurance or retention the City has shall not be required to contribute. For itself and all of its insurers, vendor waives its right to recover against the City for liabilities for which the City has insurance. Vendor shall furnish to the City endorsements from its insurers unconditionally entitling the City to 30-days' notice of cancellation or non-renewal, except that in the case of cancellation or non-renewal due to non-payment of premiums, 10-days' notice is sufficient. Vendor shall furnish the City proof of its compliance with these insurance requirements upon demand, through City-approved means (currently MyCOI). Compliance with this section is a condition of City's payment to vendor. Vendor should add [registration@mycoitracking.com](mailto:registration@mycoitracking.com) to its safe-senders list.

**INVITATION TO BID**

City of Ann Arbor  
Guy C. Larcom Municipal Building  
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements, Vendor Conflict of Interest Form, Instructions to Bidders, Bid Forms, Purchase Order Terms and Conditions, General Conditions, Detailed Specifications, and all Addenda, and understands them. The Bidder declares that it conducted a full investigation of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

*In accordance with these bid documents, and Addenda numbered \_\_\_\_\_, the undersigned, as Bidder, proposes to deliver to the City all product/services herein described for the amounts set forth in the Bid Forms.*

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

Bidder further agrees that the cited provisions of Chapter 14 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS THURSDAY 23 APRIL OF , 2026.

Roy Smith Company  
Bidder's Name

21348 Telegraph Rd Southfield, MI 48033  
Official Address

3138836969  
Telephone Number

*Ryan Murphy*  
Authorized Signature of Bidder

Ryan Murphy  
(Print Name of Signer Above)

ryan.murphy@rscmain.com  
Email Address for Award Notice

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of MICHIGAN, for whom RYAN MURPHY, bearing the office title of President, whose signature is affixed to this Bid, is authorized to execute contracts.

NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority

~~\* A limited liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.~~

~~\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):~~

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

~~\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_ (initial here)~~

**Authorized Official**

Ryan Murphy Date APRIL 23, 2026

(Print) Name Ryan Murphy Title President

Company: Roy Smith Company

Address: 21348 Telegraph Road Southfield, MI 48033

Contact Phone ( ) 313-883-6969 Fax ( ) \_\_\_\_\_

Email ryan.murphy@rscmain.com

## **SPECIFICATIONS**

### **CITY OF ANN ARBOR STANDARD SPECIFICATIONS FOR CARBON DIOXIDE (CO<sub>2</sub>)**

*This standard pertains to carbon dioxide (CO<sub>2</sub>) for use in recarbonation and pH adjustment in the treatment of municipal water supplies.*

#### **PART 1: General Information**

##### **Part 1.1 Definitions**

The following definitions shall apply in this standard:

**Manufacturer:** *Any party that produces carbon dioxide as covered by this standard.*

**Purchaser:** *Any party that enters into a contract, either written or verbal, to purchase carbon dioxide in accordance with the provisions of this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply carbon dioxide for purchase in accordance with this standard.*

##### **Part 1.2 Affidavit of Compliance**

The purchaser requires: (1) an affidavit from the manufacturer or vendor that the carbon dioxide furnished under the purchaser's orders meets or exceeds the specifications of this standard, ANSI/NSF Standard 60, and AWWA Standard B510-18.

##### **Part 1.3 Rejection**

*Notice of Nonconformance.* If the carbon dioxide does not meet the requirements of this standard, a notice of nonconformance shall be provided by the purchaser to the vendor within 10 working days of receipt of the shipment at its point of destination. The results of the purchaser's test shall prevail unless the vendor notifies the purchaser within five working days of receipt of the notice of nonconformance that a retest is desired. On receipt of the request for a retest, the purchaser shall forward to the vendor one of the sealed samples taken in accordance to section 4 of this standard. In the event that the retest results do not agree with the test results of the purchaser, the other sealed sample shall be forwarded to a referee laboratory agreed upon by both parties for analysis. The results of the referee laboratory's analysis shall be considered final. If the shipment is found to be in compliance with this standard, then the cost of the referee laboratory shall be assumed by the purchaser. If the shipment is found not to meet the specifications of this standard, the cost of the referee laboratory shall be assumed by the vendor.

If the material delivered is found to not meet the requirements of this standard, the responsibility of removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

## **PART 2: Specifications**

### **Part 2.1 Description**

Carbon dioxide gas is a colorless, odorless and tasteless gas that forms a very weak acid, carbonic acid, upon addition to water.

### **Part 2.2 Physical Requirements**

Carbon dioxide is colorless gas weighing 1.977 g/L at 0 °C and at a pressure of 760 mm of Hg, which creates the characteristic olfactory sensation.

### **Part 2.3 Chemical Requirements**

Commercial carbon dioxide suitable for use in the treatment of potable water supplies shall have a carbon dioxide content of at least 99.5 percent by weight. Carbon dioxide of 99.5 percent purity by weight shall correspond to Quality Verification Level (QVL) H.

### **Part 2.3 Impurities**

The carbon dioxide in accordance with this standard shall contain no soluble inorganic or organic substances in quantities capable of producing deleterious or injurious effects on the health of those consuming water or that would otherwise render the water that has been treated properly with carbon dioxide unfit for public use. The carbon dioxide shall not impart to the water at its rate of feed any contaminants that would cause the established drinking water standards to be exceeded when combined with the concentration of contaminants already present in the water to be treated.

The water content of the liquid carbon dioxide shall not exceed 200 ppm (v/v, -36 °C dew point) at the time of delivery.

The non-volatile residues of the carbon dioxide shall not exceed 10 ppm.

All other contaminants should not exceed those as stipulated in Table 1 of AWWA B510-18.

Carbon dioxide is a direct additive used in the treatment of potable water. This material shall be certified as suitable for contact with or treatment of drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 60, Drinking Water Treatment Chemicals-Health Effects.

## **PART 3: Delivery**

### **Part 3.1 Marking**

All shipment containers, cylinders or bulk, shall have markings, tags, labels, or serial numbers as required by the United States Department of Transportation (USDOT).

### **Part 3.2 Shipping**

Bulk shipments shall be accompanied by weight certificates from certified weighers. In lieu of weight certificates, certified liquid meter tickets are acceptable.

## **PART 4: Verification**

### **Part 4.1 Sampling**

Samples shall be representative of the carbon dioxide supply. Samples shall be taken in accordance to AWWA B510-18 or by another sampling protocol as mutually agreed upon by both the vendor and the purchaser.

### **Part 4.2 Testing Procedures**

All testing shall be done in accordance to the most current and applicable AWWA standard for carbon dioxide. It may be unnecessary to test for certain impurities, depending on the method of manufacturing used by the manufacturer. The following is a partial list of chemical and physical characteristics that may be tested for:

1. **Purity**
2. **Water content**
3. **Total hydrocarbon content**
4. **Oxygen content**
5. **Carbon monoxide content**
6. **Hydrogen sulfide content**
7. **Nitrogen oxides content**
8. **Ammonia content**
9. **Sulfur dioxide content**
10. **Carbonyl sulfide content**
11. **Non-volatile residues content**
12. **Odor (indirect testing procedure)**

## BID FORM

**VENDOR NAME:** \_\_\_\_\_

*All Bidders shall submit pricing in the format requested*

### PRICE

CARBON DIOXIDE BULK	\$ <u>130.00</u>	TON
FREIGHT	\$ <u>0</u>	TON
<b>TOTAL DELIVERED COST</b>	<b>\$ <u>130.00</u></b>	<b>TON</b>

Please indicate surcharges, and any other additional freight charges such as that assessed for "Frost Law" load restrictions appropriately.

Additional freight costs during Road Weight Restrictions: \$ 0 TON.

OTHER COSTS: All costs to the City must be specified on this bid form. Any fees identified at a later date will result in the bid being rejected.

INVOICE TERMS: Discount of 0 % or \$ 0 will be allowed for payment of invoice thirty (30) days from day of delivery and acceptance.

OTHER TERMS: Less than 30 days, E.O.M., Proximo, etc., will not be considered in determining award of contract.

Carbon dioxide shall be supplied to the City of Ann Arbor Water Treatment Plant at 919 Sunset Rd (accessed through the Pomona road gate), f.o.b. destination, freight prepaid. Contractor shall be responsible for transferring the product from transport vehicle to the City of Ann Arbor storage vessel. Bidder shall specify minimum shipping amount if any:

QUANTITY: Quantities and usage rates are given for estimating purposes only, not a guarantee of actual usage. Product will be ordered on an "as needed" basis. All prices are to remain firm. The annual quantity is approximately **560 TON**. Carbon dioxide tanks are 30 ton and 70 ton. The average usage rate over the past year was 120 lb/hr, with fluctuations thru the day and seasonally. Usage is highest in winter and spring months and lowest in fall (such as 160 lb/hr average in winter and 70 lb/hr in fall).

MONITORING: The successful Provider may provide a telemetry device(s) for tank monitoring that provides data to the Provider on tank level and keeping the tank above 50% capacity. Therefore, ordering product is unnecessary and resupply is managed by the supplier according to the needs of the Water Treatment Plant. This device (these devices) will be at no cost to the City of Ann Arbor.

SPECIFICATIONS: Please include the typical specifications of your product with your bid to demonstrate your product quality, especially pertaining to minimum purity and impurities.

REFERENCES: Please list at least three (3) entities for which you have done similar work:

<u>Organization</u>	<u>Address</u>	<u>Contact Person</u>	<u>Telephone</u>
1. HOLLAND BOARD OF PUBLIC WORKS	625 HASTINGS HOLLAND, MI 49423	STEVE DYKE	616-355-1253
2. TAHOE TRUCKEE SANITATION	13720 BUTTERFIELD DR TRUCKEE, CA	KEVIN DEMM	530-587-2525
3. US ARMY CORPS RUSSELL DAM	4144 RBR DR. ELBERTON, GA 30653	JAMES SYKES	706-567-2894

## GENERAL CONDITIONS

### ESTIMATED QUANTITIES

Quantities stated are estimated and not guaranteed. The quantities stated will be used for award purposes only and are based up an average of actual annual usage.

### DOWN PAYMENTS

Any bid proposal submitted which requires a down payment or prepayment of any kind prior to delivery and acceptance of the item, as being in conformance with the specifications will not be considered for award.

### PURCHASE ORDER

The successful bidder will be issued a purchase order from the City of Ann Arbor, which will create a bilateral contract between the City and the successful bidder. The purchase order shall commit the bidder to perform the contract in accordance with the specifications and the terms and conditions of the purchase order.

The terms and conditions of the Purchase Order are provided herein.

### CONTRACT TERM

The pricing provided for this ITB shall be firm for one (1) year. Upon mutual agreement between the City and the vendor the pricing provided in this ITB may be extended for three (3) additional one (1) year periods not to exceed four (4) years in total. Price increases shall be tied to the producer price index for Industrial gas manufacturing Carbon dioxide : PCU3251203251204. The vendor shall provide written notice upon renewal that they intend to exercise the price escalation provision and provide documentation of the calculation of price increase.

The price increase shall be calculated as follows:

Price Increase =  
Current Bid Price x  
Percentage Difference between PPI Data at Month/Year of ITB Acceptance and Month/Year of  
Price Increase

PPI Source:  
<https://data.bls.gov/PDQWeb/pc>

Example:  
Bid Price = \$10/ton

PPI at ITB acceptance (1/1/2015) = 272.8  
PPI at Increase Request Date (1/1/2017) = 292.3

Difference as a percentage = 7.1%

New acceptable price = \$10.71

## City of Ann Arbor: General Terms and Conditions

The following General Terms and Conditions shall apply to all purchases by or on behalf of the City of Ann Arbor unless specifically provided otherwise on the front of this document:

**Tax Exemption:** The City of Ann Arbor ("City") is tax exempt. FEIN # 38-6004534.

**Acceptance of Contract:** This purchase order is the City's contract to purchase the goods or services attached to this document from the Vendor. The City's placement of this order is expressly conditioned upon the Vendor's acceptance of all the terms and conditions on or attached to this purchase order. All specifications, drawings, and data submitted to the Vendor with this order are hereby incorporated and made part hereof.

**Amendments:** No agreement or understanding to modify this contract shall be binding upon the City unless in writing and signed by the City's authorized agent.

**Delivery:** All prices must be F.O.B. delivery point. Time is of the essence on this contract. If delivery dates cannot be met, the Vendor agrees to advise the City in writing of the earliest possible shipping date. The City reserves the right to cancel or purchase elsewhere and hold the Vendor accountable.

**Risk of Loss:** Regardless of F.O.B. point, the Vendor agrees to bear all risk of loss, injury, or destruction of goods or materials ordered herein that occur prior to delivery or acceptance by the City, whichever is later. No such loss, injury, or destruction shall release the Vendor from any obligations hereunder.

**Inspection:** Vendor must properly package goods to prevent damage. The City will not accept damaged goods. The City reserves the right to inspect goods at a reasonable time subsequent to delivery where circumstances or conditions prevent effective inspection of the goods at the time of delivery. All rejected goods shall be returned to the Vendor at Vendor's cost, with no cost to the City, whether the damage is readily apparent at the time of delivery or later. The City's acceptance is conditioned on such inspection.

**Patents and Copyrights:** If goods sold and delivered to the City hereunder are protected by an applicable patent or copyright, the Vendor agrees to indemnify and save harmless the City from and against any and all suits, claims, judgments, and costs instituted or recovered against the City by any person on account of the use or sale of such goods by the City in violation of such patent or copyright.

**Uniform Commercial Code:** All applicable portions of the Michigan Uniform Commercial Code shall govern contracts for goods with the City of Ann Arbor, except as modified by contract documents.

**Non-waiver of Rights:** No failure of either party to exercise any right given to it hereunder or to insist upon strict compliance by the other party with its obligations hereunder, and no custom or practice of the parties at variance with the terms hereof, nor any payment under this contract shall constitute a waiver of either party's right to demand exact compliance with the terms hereof.

**Material Safety Data Sheets:** Applicable Material Safety Data Sheets, in compliance with OSHA/MIOSHA hazard communication regulations and standards, must be provided by the Vendor to the City at the time of purchase.

**Assignments:** The Vendor agrees not to assign or transfer any part of this contract without the written consent of the City, acting through an authorized agent. Any unauthorized assignment may subject the Vendor to immediate termination.

**Laws Governing, Severability:** This contract shall be governed by and construed according to the laws of the State of Michigan. Vendor agrees to submit to the jurisdiction and venue of the Circuit Court of Washtenaw County, MI, or if original jurisdiction is established, the U.S. District Ct. for Eastern District of MI, Southern Division. The Vendor stipulates venues referenced are convenient and waives any claim of non-convenience. If any term herein is found to be ineffective, unenforceable or illegal under any present or future law, such term shall be fully severable, and the remaining terms shall not be affected and shall remain in full force and effect.

**Prevailing Wage:** Vendor must comply with applicable prevailing wage requirements, including the Davis-Bacon Act.

**Living Wage:** Vendor must comply, when applicable, with the City's Living Wage Ordinance (Chapter 23, City Code).

**Non-Discrimination:** Vendor must comply with all applicable state, federal, and local non-discrimination laws, including MCL 37.2209 and Chapter 112 of City Code.

**Indemnification:** To the fullest extent permitted by law, the Vendor shall indemnify, defend, and hold the City, its officers, employees, and agents harmless from all suits, claims, judgments, and expenses, including attorney fees, resulting or alleged to result from any act or omission associated with the performance of this contract by the Vendor or anyone acting on the Vendor's behalf under this contract. The Vendor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. This indemnity survives delivery and acceptance of the Vendor's goods and services.

**Warranty:** The Vendor warrants to the City that all goods and services furnished hereunder will conform in all respects to the terms of this contract, including any drawings, specifications and standards incorporated herein. In addition, the Vendor warrants the goods and services are suitable for and will perform in accordance with the purposes for which they were intended.

**Payment Terms:** The City's payment terms are "net 30." The payment date will be calculated based on the invoice receipt date or delivery date, whichever is later.

**Payments:** All invoices under this contract shall be emailed to [accounts payable@a2gov.org](mailto:accounts payable@a2gov.org). Mailed invoices shall be addressed to the City of Ann Arbor, Accounts Payable, P.O. Box 8647, Ann Arbor, MI 48107, as indicated on the front of this purchase order. Invoices must include the Vendor's name, phone number, and clearly list item descriptions, quantities, and units of measure. The Vendor acknowledges and understands that invoices not addressed as stated above shall have the "net 30" begin once the invoice is received by City Accounts Payable.

**Compliance with Laws:** The Vendor certifies that in performing this contract it will comply with all applicable laws, regulations, rules, and orders.

**Termination for Cause:** In the event the Vendor fails, at any time, to comply with, fully perform, or strictly adhere to any covenant, condition or representation contained within this contract, the City shall have the right to give written notice to Vendor of such failure. If such failure is not cured to the City's satisfaction within 10 business days from the time of delivery to Vendor of such notice, the City shall have the right to terminate this contract immediately without the requirement of further notice.



**Vendor Conflict of Interest Disclosure Form**

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

<b>Conflict of Interest Disclosure*</b>	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <hr/> <input type="checkbox"/> Interest in vendor's company <input type="checkbox"/> Other (please describe in box below)

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

<b>I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:</b>		
ROY SMITH COMPANY	313-883-6969	
<b>Vendor Name</b>	<b>Vendor Phone Number</b>	
<i>Ryan Murphy</i>	4/23/2026	RYAN MURPHY
<b>Signature of Vendor Authorized Representative</b>	<b>Date</b>	<b>Printed Name of Vendor Authorized Representative</b>

**CITY OF ANN ARBOR  
DECLARATION OF COMPLIANCE**

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.
- (b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

**ROY SMITH COMPANY**

Company Name

*Ryan Murphy*

4/23/2026

Signature of Authorized Representative

Date

**RYAN MURPHY, PRESIDENT**

Print Name and Title

21348 Telegraph Road Southfield, MI 48033

Address, City, State, Zip

313-883-6969

ryan.murphy@rscmain.com

Phone/Email Address

**Questions about the Notice or the City Administrative Policy, Please contact:**  
Procurement Office of the City of Ann Arbor  
(734) 794-6500

## CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.  
You can review the entire ordinance at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights).

**Intent:** It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

**Discriminatory Employment Practices:** No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

**Discriminatory Effects:** No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

**Nondiscrimination by City Contractors:** All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

**Complaint Procedure:** If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights). Then submit it to the Human Rights Commission by e-mail ([hrc@a2gov.org](mailto:hrc@a2gov.org)), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at [hrc@a2gov.org](mailto:hrc@a2gov.org).

**Private Actions For Damages or Injunctive Relief:** To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND  
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

# CARBON DIOXIDE, REFRIG LIQUID

## Safety Data Sheet



### 1. IDENTIFICATION

**Product identifier**

**Product Name** CARBON DIOXIDE, REFRIG LIQUID

**Other means of identification**

**Safety data sheet number** LIND-P024  
**UN/ID no.** UN2187  
**Trade name** Liquid Carbon Dioxide, Carbon Dioxide Liquid, LCO2, Gourmet C

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Industrial and professional use. Food and Beverage.  
**Uses advised against** Consumer use

**Details of the supplier of the safety data sheet**

Messer North America, Inc. - Messer LLC - Messer Merchant Production LLC  
200 Somerset Corporate Blvd, Suite 7000  
Bridgewater, NJ 08807  
Phone: 908-464-8100  
www.messer-us.com

Messer Gas Puerto Rico, Inc.  
Road 869, Km 1.8  
Barrio Palmas, Catano, PR 00962  
Phone: 787-641-7445

\* May include subsidiaries or affiliate companies/divisions.

For additional product information contact your local customer service.

**Emergency telephone number**

**Company Phone Number** +1 800-232-4726 (Messer National Operations Center, US)

CHEMTREC: 1-800-424-9300 (North America) +1-703-527-3887 (International)

**2. HAZARDS IDENTIFICATION**

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Gases under pressure	Refrigerated liquefied gas
Simple asphyxiants	Yes / Category 1

**Label elements**



**Signal word**

**Warning**

**Hazard Statements**

Contains refrigerated gas; may cause cryogenic burns or injury  
 May displace oxygen and cause rapid suffocation  
 May increase respiration and heart rate

**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood  
 Use and store only outdoors or in a well ventilated place  
 Wear cold insulating gloves, face shield, and eye protection  
 Use a backflow preventive device in piping  
 Do NOT change or force fit connections  
 Close valve after each use and when empty  
 Always keep container in upright position

**Precautionary Statements - Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.  
 IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

**Hazards not otherwise classified (HNOC)**

Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Pure Gas

Chemical Name	Common names/synonyms	CAS No.	Volume %	Chemical Formula
CARBON DIOXIDE	Carbonic Anhydride, Carbonic Acid Gas	124-38-9	>99	CO <sub>2</sub>

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Skin contact</b>	For dermal contact or suspected frostbite, remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if contact with the product has resulted in blistering of the dermal surface or in deep tissue freezing.
<b>Eye contact</b>	If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.
<b>Ingestion</b>	Not an expected route of exposure.
<b>Self-protection of the first aider</b>	RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Depending on concentration and duration of exposure to carbon dioxide may cause increased respirations, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure become more apparent when atmospheric oxygen is decreased to 15-17%. Concentrations of 10% or more can produce unconsciousness and death. May cause asphyxiation in high concentrations. Direct contact with liquid can cause severe frostbite.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media None.

##### Specific extinguishing methods

Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

##### Specific hazards arising from the chemical

Non-flammable gas. Cylinders may rupture under extreme heat. Do not direct water at source of leak or safety devices; icing may occur.

##### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor concentration of released product. Monitor oxygen level. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be
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safe. Use personal protection recommended in Section 8.

**Other Information**

Liquid spill will vaporize and expand rapidly to a large volume of gas creating risk of oxygen deficient atmosphere. A fog cloud of condensed moisture in the air may obscure visibility. Gas/vapor is heavier than air. Prevent from entering sewers, basements and workpits, or any place where accumulation may be dangerous.

When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

**Environmental precautions****Environmental precautions**

Prevent spreading of vapors through sewers, ventilation systems and confined areas.

**Methods and material for containment and cleaning up****Methods for containment**

Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location. If system leak, close source valves and safely vent pressure before attempting any repairs.

**Methods for cleaning up**

Return Portable Cryogenic Container to Messer or an authorized distributor.

**7. HANDLING AND STORAGE****Precautions for safe handling****Advice on safe handling**

Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cold fluids. The extremely cold metal will cause moist flesh to stick fast and tear when one attempts to withdraw from it. Do NOT change or force fit connections. For applications with moist Carbon Dioxide, 316, 309 and 310 stainless steels may be used as well as Hastelloy® A, B, & C and Monel®. Ferrous nickel alloys are slightly susceptible to corrosion. At normal temperatures carbon dioxide is compatible with most plastics and elastomers.

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Use only with adequate ventilation. Use a backflow preventive device in piping. Close valve after each use and when empty. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Never attempt to refill a compressed gas cylinder without the owner's written consent.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers. Use only with equipment rated for cylinder pressure.

For additional recommendations, consult Compressed Gas Association's publications G-6, G-6.1, G-6.2, G-6.3, G-6.5, G-6.7, G-6.12., P-76 and NFPA 55.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Cylinders should be stored upright with valve

protection cap in place and firmly secured to prevent falling. Keep at temperatures below 52°C / 125°F. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

**Incompatible materials**

Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
CARBON DIOXIDE 124-38-9	STEL: 30000 ppm TWA: 5000 ppm	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup> (vacated) TWA: 10000 ppm (vacated) TWA: 18000 mg/m <sup>3</sup> (vacated) STEL: 30000 ppm (vacated) STEL: 54000 mg/m <sup>3</sup>	IDLH: 40000 ppm TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup> STEL: 30000 ppm STEL: 54000 mg/m <sup>3</sup>

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health*

**Other Information**

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls****Engineering Controls**

Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Consider installation of leak detection systems in areas of use and storage. Carbon dioxide detectors should be installed where there is potential for hazardous concentrations. Do not depend on oxygen monitors as carbon dioxide can be present at hazardous levels even when there is adequate oxygen level. Oxygen detectors should be used when asphyxiating gases may be released.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles). If there is potential for exposure to liquid, wear Goggles face-shield over either safety glasses with side shields or safety goggles.

**Skin and body protection**

Work gloves and safety shoes are recommended when handling cylinders. Wear loose fitting, cold insulating gloves and suitable clothing to prevent skin contact with liquid, cold gas and cold equipment or piping.

**Respiratory protection**

Use positive pressure airline respirator with escape cylinder or self contained breathing apparatus for oxygen-deficient atmospheres (<19.5%). If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

Physical state	Refrigerated liquefied gas
Appearance	Colorless
Odor	Odorless
Odor threshold	Not available
pH	Not applicable
Melting/freezing point	Not applicable
Boiling point / boiling range	(Sublimes) -78.5 °C / -109.3 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	Non-flammable gas
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable
Flash point	Not applicable
Autoignition temperature	Not available
Decomposition temperature	Not available
Water solubility	Very soluble
Partition coefficient	Not available
Kinematic viscosity	Not applicable

**Component Level Information:**

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m <sup>3</sup> @20°C	Critical Temperature
CARBON DIOXIDE	44.01	-78.5 °C (Sublimes)	57780 hPa @ 21.1°C	1.522	1.839	31.1 °C

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not reactive under normal conditions

**Chemical stability**

Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Due to the presence of Carbon dioxide, Carbonic acid is formed in the presence of moisture.

**Incompatible materials**

Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.

**Hazardous Decomposition Products**

Oxygen. Carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Inhalation**

Acidosis, adrenal cortical exhaustion, and other metabolic stresses have resulted from prolonged continuous exposure to 1-2% carbon dioxide (10,000 ppm-20,000 ppm). The ACGIH TLV of 5,000 ppm is expected to provide a good margin of safety from asphyxiation and undue metabolic stress provided sufficient oxygen levels are maintained in the air.

Increased physical activity, duration of exposure, and decreased oxygen content can affect systemic and respiratory effects resulting from exposure to carbon dioxide.

<b>Skin contact</b>	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected skin. Contact with evaporating liquid may cause cold burns/frostbite.
<b>Eye contact</b>	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected eyes. Contact with evaporating liquid may cause cold burns/frostbite.
<b>Ingestion</b>	Not an expected route of exposure.

#### Information on toxicological effects

<b>Symptoms</b>	Depending on concentration and duration of exposure to carbon dioxide may cause increased respirations, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure become more apparent when atmospheric oxygen is decreased to 15-17%.
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#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Irritation</b>	Not classified.
<b>Sensitization</b>	Not classified.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
<b>Reproductive toxicity</b>	Not classified.
<b>STOT - single exposure</b>	Not classified.
<b>STOT - repeated exposure</b>	Not classified.
<b>Target Organ Effects</b>	Central Vascular System (CVS). Respiratory system.
<b>Aspiration hazard</b>	Not applicable.

#### Numerical measures of toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50	Inhalation LC50 (CGA P-20)
CARBON DIOXIDE 124-38-9	-	-	47,000 ppm (Rat)	-

#### **Product Information**

<b>Oral LD50</b>	No information available.
<b>Dermal LD50</b>	No information available.
<b>Inhalation LC50</b>	TCLo - 10,000 ppm (Rat) 24 hours/30 days-continuous
<b>Inhalation LC50</b>	No information available.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

No known acute aquatic toxicity.

#### Persistence and degradability

Not available.

#### Bioaccumulation

Not available.

#### Other adverse effects

Can cause frost damage to vegetation.

**Global warming potential (GWP)** 1

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****Disposal of wastes**

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

**14. TRANSPORT INFORMATION****DOT**

UN/ID no.	UN2187
Proper shipping name	Carbon dioxide, refrigerated liquid
Hazard Class	2.2
Special Provisions	T75, TP5
Description	UN2187, Carbon dioxide, refrigerated liquid, 2.2
Emergency Response Guide Number	120

**TDG**

UN/ID no.	UN2187
Proper shipping name	Carbon dioxide, refrigerated liquid
Hazard Class	2.2
Description	UN2187, Carbon dioxide, refrigerated liquid, 2.2

**IATA**

UN/ID no.	UN2187
Proper shipping name	Carbon dioxide, refrigerated liquid
Hazard Class	2.2
ERG Code	2L
Description	UN2187, Carbon dioxide, refrigerated liquid, 2.2

**IMDG**

UN/ID no.	UN2187
Proper shipping name	Carbon dioxide, refrigerated liquid
Hazard Class	2.2
EmS-No.	F-C, S-V

**15. REGULATORY INFORMATION**

**INTERNATIONAL INVENTORIES**

TSCA Complies  
 DSL/NDSL Complies  
 EINECS/ELINCS Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US FEDERAL REGULATIONS**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**Risk and Process Safety Management Programs**

This material, as supplied, does not contain any regulated substances with specified thresholds under 40 CFR Part 68. This product does not contain any substances regulated as Highly Hazardous Chemicals pursuant to the 29 CFR Part 1910.110.

**US STATE REGULATIONS**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Carbon dioxide 124-38-9	X	X	X

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Properties</b> Simple asphyxiant
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**Note:** Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

<b>Issue Date</b>	17-Feb-2015
<b>Revision Date</b>	24-Feb-2025
<b>Revision Note</b>	SDS sections updated; Not applicable

LIND-P024

**General Disclaimer**

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

**DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End of Safety Data Sheet

## **General Letter of Validation – NSF/ANSI/ CAN 60 CO<sub>2</sub> and N<sub>2</sub>**

2024-2027

Dear Customer:

We have received your request and are pleased to provide a continuing guarantee (or confirmation) that the Carbon Dioxide or Oxygen offered to you by Messer is certified to NSF/ANSI/CAN 60 standard 60, Drinking Water Treatment Chemicals. A current listing of Messer North America's certified manufacturing and distribution locations can be found at the WQA Website: <http://www.WQA.org>.

The WQA Gold-Seal Mark is the official logo of Water Quality Associates. The logo must be present in its approved form on a copy of the product delivery documentation to customers. Correct use of the WQA Gold Seal is defined by WQA publications. The certification is non-transferrable.

Please be assured that Messer's rigorous quality assurance and control procedures ensure that the liquid products supplied to you will meet the specification requirements outlined above.

Sincerely,

Joe Angeloni

Program Manager CO2 Product Quality

Messer North America

National Operations Center

6255 Sterner's Way Suite 101

Bethlehem PA 18017

**Messer North America**

200 Somerset Corporate Blvd, Suite 7000, Bridgewater, NJ 08807

Phone 1-800-755-9277, [www.messer-us.com](http://www.messer-us.com)

For updated versions of this document or general questions email us at [ask.messer@messer-us.com](mailto:ask.messer@messer-us.com)

## General Letter of Validation

2025-2027

Dear Customer:

We have received your request and are pleased to provide a continuing guarantee (or confirmation) that Messer carbon dioxide supplied to you will meet the Compressed Gas Association's (CGA) quality verification level H (QVL), as presented in CGA Publication G-6.2: "Commodity Specification for Carbon Dioxide" as shown below.

Property	QVL H Limit
Purity	≥ 99.5 %
Water	≤ 20 ppm
Total Hydrocarbons	≤ 50 ppm
Oxygen	≤ 50 ppm
Carbon Monoxide	≤ 10 ppm
Oxides of Nitrogen	≤ 5 ppm
Total Sulfur	≤ 0.5 ppm
*Hydrogen Sulfide	≤ 0.5 ppm
*Sulfur Dioxide	≤ 5 ppm
*Carbonyl Sulfide	≤ 0.5 ppm
Non-volatile Residue	≤ 10 ppm
Acetaldehyde	≤ 0.5 ppm
Odor and Taste	None

\*Note: When Total Sulfur analysis is performed, individual sulfur tests are not performed as Total Sulfur accounts for all the potential sulfur species in the product including Hydrogen Sulfide, Sulfur Dioxide and Carbonyl Sulfide. Therefore, if the product passes the Total Sulfur test, it meets the specification for the individual species as well.

Please be assured that Messer's rigorous quality assurance and control procedures ensure that the liquid carbon dioxide supplied to you will meet the specification requirements outlined above. This product guarantee is not transferrable.

Regards,

Joe Angeloni

Program Manager CO2 Product Quality  
National Operations Center  
6255 Sterner's Way Suite 101  
Bethlehem PA 18017

**Messer North America**

200 Somerset Corporate Blvd, Suite 7000, Bridgewater, NJ 08807  
Phone 1-800-755-9277, [www.messer-us.com](http://www.messer-us.com)

For updated versions of this document or general questions email us at [ask.messer@messer-us.com](mailto:ask.messer@messer-us.com)



*This is to certify:*

**Entity Name:** ROY SMITH COMPANY

**Entity ID#:** 800036724

**Entity Type:** Domestic Profit Corporation

**Initial Filing Date:** 07/31/1963

**Delayed Effective Date:**

**Formation Jurisdiction:** Michigan

**Act Formed Under:** 327-1931 Michigan General Corporation Act

*That the above referenced entity was validly incorporated and said corporation is validly in existence under the laws of this state.*

*This certificate is issued in conformity with the Act it is formed under, to attest to the fact that the company is in good standing in Michigan as of this date and is duly authorized to transact business and for no other purpose.*

*This certificate is in due form, made by me as the proper officer, and is entitled to have full faith and credit given it in every court and office within the United States.*



*In testimony whereof, I have hereunto set my hand, in the City of Lansing, on July 2, 2025.*

Linda Clegg, Director

Corporations, Securities & Commercial Licensing Bureau

Certificate Number: 12468

Verify this certificate at: [www.michigan.gov/corpverifycertificate](http://www.michigan.gov/corpverifycertificate)



**NMSDC**

National Minority Supplier  
Development Council

Advancing Economic  
Impact Together

This certificate attests that the below mentioned company is an NMSDC-Certified  
Minority Business Enterprise(MBE):

# Roy Smith Company

M1605959

Certificate Number

10-14-2025

Issuance Date

12-31-2026

Expiration Date

Donald R. Cravins, Jr.  
Interim President and CEO  
NMSDC

325120,333514,333992,423840,

424690

NAICS Codes

23270000

UNSPSC Codes

Supporting Regional Affiliate: Michigan MSDC

# Request for Taxpayer Identification Number and Certification

**Give Form to the  
requester. Do not  
send to the IRS.**

▶ Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	<p><b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank. <i>Roy Smith Company</i></p> <p><b>2</b> Business name/disregarded entity name, if different from above</p> <p><b>3</b> Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.</p> <p><input type="checkbox"/> Individual/sole proprietor or single-member LLC</p> <p><input checked="" type="checkbox"/> C Corporation</p> <p><input type="checkbox"/> S Corporation</p> <p><input type="checkbox"/> Partnership</p> <p><input type="checkbox"/> Trust/estate</p> <p><input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____</p> <p><small>Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.</small></p> <p><input type="checkbox"/> Other (see instructions) ▶ _____</p> <p><b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):</p> <p>Exempt payee code (if any) _____</p> <p>Exemption from FATCA reporting code (if any) _____</p> <p><small>(Applies to accounts maintained outside the U.S.)</small></p> <p><b>5</b> Address (number, street, and apt. or suite no.) See instructions. <i>21348 Telegraph Rd. Ste. 100</i></p> <p><b>6</b> City, state, and ZIP code <i>Southfield, MI 48033</i></p> <p><b>7</b> List account number(s) here (optional)</p> <p>Requester's name and address (optional)</p>
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### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number				
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; border: 1px solid black;"> </td> <td style="width: 25%; border: 1px solid black;"> </td> <td style="width: 25%; border: 1px solid black;"> </td> <td style="width: 25%; border: 1px solid black;"> </td> </tr> </table>				
or				
Employer identification number				
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; border: 1px solid black;">38</td> <td style="width: 25%; border: 1px solid black;">-17</td> <td style="width: 25%; border: 1px solid black;">17</td> <td style="width: 25%; border: 1px solid black;">852</td> </tr> </table>	38	-17	17	852
38	-17	17	852	

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	Signature of U.S. person ▶ <i>Kevin Lee - Controller</i>	Date ▶ <i>June 2, 2023</i>
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### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

#### Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (Interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*