# Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

**Safety Data Sheet P-6303**


Date of issue: 09/01/2004  Revision date: 10/27/2016  Supersedes: 07/01/2015

## SECTION 1: Product and company identification

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>Extendapak Food Gas Mixtures EX 30-38; Bioblend Aerobic Gas Mixture (Aerobic biological atmosphere mixture for culture growth)</td>
</tr>
</tbody>
</table>

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

Use of the substance/mixture:
- Industrial use
- Laboratory use

### 1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.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
- Compressed gas: H280

### 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
- H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

Precautionary statements (GHS-US):
- P220 - Keep/Store away from combustible materials
- P244 - Keep reduction valves/valves and fittings free from oil and grease
- P370+P376 - In case of fire: Stop leak if safe to do so
- P403 - Use and store only outdoors or in a well-ventilated place
- P410+P403 - Protect from sunlight. Store in a well-ventilated place

### 2.3. Other hazards

Other hazards not contributing to the classification: None.

### 2.4. Unknown acute toxicity (GHS US)

No data available

---

EN (English US)  SDS ID: P-6303  1/9

This document is only controlled while on the Praxair, Inc. website and a copy of this controlled version is available for download. Praxair cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Safety Data Sheet P-6303


Date of issue: 09/01/2004    Revision date: 10/27/2016    Supersedes: 07/01/2015

SECTION 3: Composition/Information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>(CAS No) 7782-44-7</td>
<td>23.6 - 99</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>(CAS No) 124-38-9</td>
<td>1 - 76.4</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: 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: Adverse effects not expected from this product.

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: Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Firefighting instructions: 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: Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for firefighters: 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.

Stop flow of product if safe to do so

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: 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
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Safety Data Sheet P-6303
Date of issue: 09/01/2004    Revision date: 10/27/2016    Supersedes: 07/01/2015

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: 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. Gases can cause rapid suffocation because of oxygen deficiency; 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.

7.3. Specific end use(s)
None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Oxygen (7782-44-7)</th>
<th>ACGIH</th>
<th>Not established</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USA OSHA</td>
<td>Not established</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbon dioxide (124-38-9)</th>
<th>ACGIH</th>
<th>ACGIH TLV-TWA (ppm)</th>
<th>5000 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACGIH</td>
<td>ACGIH TLV-STEL (ppm)</td>
<td>30000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>9000 mg/m³</td>
</tr>
</tbody>
</table>
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)
Safety Data Sheet P-6303
Date of issue: 09/01/2004   Revision date: 10/27/2016   Supersedes: 07/01/2015

<table>
<thead>
<tr>
<th>Carbon dioxide (124-38-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
</tr>
</tbody>
</table>

8.2. **Exposure controls**
- **Appropriate engineering controls**: 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 transferring or breaking transfer connections.
- **Respiratory protection**: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
- **Thermal hazard protection**: Wear cold insulating gloves when transferring or breaking transfer connections. None necessary.
- **Environmental exposure controls**: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
- **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.
- **Color**: Colorless.
- **Odor**: Odorless.
- **Odor threshold**: Odor threshold is subjective and inadequate to warn for overexposure.
- **pH**: Not applicable.
- **Relative evaporation rate (butyl acetate=1)**: No data available
- **Relative evaporation rate (ether=1)**: Not applicable.
- **Melting point**: No data available
- **Freezing point**: No data available
- **Boiling point**: No data available
- **Flash point**: No data available
- **Auto-ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Flammability (solid, gas)**: No data available
- **Vapor pressure**: Not applicable.
- **Relative vapor density at 20 °C**: No data available
- **Relative density**: No data available
- **Relative gas density**: 1 - 1.38
- **Solubility**: Water: No data available
- **Log Pow**: Not applicable.
- **Log Kow**: Not applicable.
- **Viscosity, kinematic**: Not applicable.
- **Viscosity, dynamic**: Not applicable.
- **Explosive properties**: Not applicable.
- **Oxidizing properties**: Oxidizer.
- **Explosion limits**: No data available

9.2. **Other information**
- No additional information available
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

Violently oxidizes organic material.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

May react violently with combustible materials. May react violently with reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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 : Classification criteria are not met. No ecological damage caused by this product.

12.2. Persistence and degradability

Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Persistence and degradability : No ecological damage caused by this product.

Oxygen (7782-44-7)

Persistence and degradability : No ecological damage caused by this product.

Carbon dioxide (124-38-9)

Persistence and degradability : No ecological damage caused by this product.

12.3. Bioaccumulative potential

Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Log Pow : Not applicable.

Log Kow : Not applicable.
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Safety Data Sheet P-6303


Date of issue: 09/01/2004    Revision date: 10/27/2016    Supersedes: 07/01/2015

<table>
<thead>
<tr>
<th>Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxygen (7782-44-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbon dioxide (124-38-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>(no bioaccumulation)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>0.83</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

### 12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxygen (7782-44-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbon dioxide (124-38-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

### 12.5 Other adverse effects

Effect on ozone layer : None

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

### SECTION 14: Transport information

In accordance with DOT

Transport document description : UN3156 Compressed gas, oxidizing, n.o.s., 2.2

UN-No.(DOT) : UN3156

Proper Shipping Name (DOT) : Compressed gas, oxidizing, n.o.s.

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 Symbols : G - Identifies proper shipping name (PSN) requiring the addition of technical name(s) in parentheses following the PSN

DOT Special Provisions (49 CFR 172.102) : A14 - This material is not authorized to be transported as a limited quantity or consumer commodity in accordance with 173.306 of this subchapter when transported aboard an aircraft

Additional information

Other information : No supplementary information available.
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) : 3156
Proper Shipping Name (IMDG) : COMPRESSED GAS, OXIDIZING, N.O.S.
Class (IMDG) : 2 - Gases

Air transport
UN-No. (IATA) : 3156
Proper Shipping Name (IATA) : Compressed gas, oxidizing, n.o.s.
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

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

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Oxygen (7782-44-7)
Listed on the Canadian DSL (Domestic Substances List)

Carbon dioxide (124-38-9)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

15.2. National regulations
No additional information available

15.3. US State regulations

<table>
<thead>
<tr>
<th>Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive</td>
</tr>
</tbody>
</table>
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Safety Data Sheet P-6303


Date of issue: 09/01/2004    Revision date: 10/27/2016    Supersedes: 07/01/2015

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.

Praxair 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 Praxair, 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 Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product.

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center. (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044)

PRAxAIR and the Flowing Airstream design are trademarks or registered trademarks of Praxair Technology, Inc. in the United States and/or other countries.
Gas Mixture (Oxygen Balance - 1 - 76.5% Carbon Dioxide)

Safety Data Sheet P-6303
Date of issue: 09/01/2004    Revision date: 10/27/2016    Supersedes: 07/01/2015

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard: 0 - Materials that will not burn.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
NFPA specific hazard: OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.

HMIS III Rating
Health: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 0 Minimal Hazard
Physical: 3 Serious 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.