

# Oxygen (19.5 - 23.5%) in balance Nitrogen

## Safety Data Sheet 50223

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.3

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures

Product name : Oxygen (19.5 - 23.5%) in balance Nitrogen

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Calgaz, division of Airgas USA LLC

821 Chesapeake Drive

Cambridge, 21613 - USA

T 1-410-228-6400 - F 1-410-228-4251

[info@Calgaz.com](mailto:info@Calgaz.com) - [www.Calgaz.com](http://www.Calgaz.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTRAC: 1-800-424-9300  
Internationally: 1-703-527-3887

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Gases under pressure H280 Contains gas under pressure; may explode if heated  
Compressed gas

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS-US) : P410+P403 - Protect from sunlight. Store in a well-ventilated place.

#### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

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

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name     | Product identifier  | %           | GHS-US classification                       |
|----------|---------------------|-------------|---|
| Nitrogen | (CAS-No.) 7727-37-9 | 76.5 - 80.5 | Press. Gas (Comp.), H280                    |
| Oxygen   | (CAS-No.) 7782-44-7 | 19.5 - 23.5 | Ox. Gas 1, H270<br>Press. Gas (Comp.), H280 |

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Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : Adverse effects not expected from this product. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation   | : Adverse effects not expected from this product.  |
| First-aid measures after skin contact | : Adverse effects not expected from this product.  |
| First-aid measures after eye contact  | : Adverse effects not expected from this product.  |
| First-aid measures after ingestion    | : Ingestion is not considered a potential route of exposure.   |

#### 4.2. Most important symptoms and effects (acute and delayed)

|   |  |
|---|--|
| Symptoms/effects after inhalation                           | : None under normal use.                           |
| Most important symptoms and effects, both acute and delayed | : No effect on living tissue. Refer to section 11. |

#### 4.3. Immediate medical attention and special treatment, if necessary

None.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

|                                |                                       |
|--------------------------------|---------------------------------------|
| Suitable extinguishing media   | : Water spray or fog.                 |
| Unsuitable extinguishing media | : Do not use water jet to extinguish. |

#### 5.2. Specific hazards arising from the chemical

|                               |  |
|-------------------------------|--|
| Reactivity                    | : No reactivity hazard other than the effects described in sub-sections below. |
| Hazardous combustion products | : None   |

#### 5.3. Special protective equipment and precautions for fire-fighters

|  |   |
|--|---|
| Special protective equipment for fire fighters | : Standard protective clothing and equipment (e.g. Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  |
| Specific methods                               | : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Exposure to fire may cause containers to rupture/explode. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Continue water spray from protected position until container stays cool. Move containers away from the fire area if this can be done without risk. |

### SECTION 6: Accidental release measures

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

|                  |                        |
|------------------|------------------------|
| General measures | : Try to stop release. |
|------------------|------------------------|

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

None.

#### 6.3. Methods and material for containment and cleaning up

|  |         |
|--|---------|
| Methods and material for containment and cleaning up | : None. |
|--|---------|

#### 6.4. Reference to other sections

See also Sections 8 and 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Safe handling of the gas receptacle

: Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Refer to supplier's container handling instructions. Do not allow backfeed into the container. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should be stored in the vertical position and properly secured to prevent them from falling over.

Safe use of the product

: The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

#### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials

: Flammable materials.

Conditions for safe storage, including any incompatibilities

: Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

Storage area

: Store away from heat. Store in a well-ventilated place.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Oxygen (7782-44-7)

Not applicable

##### Nitrogen (7727-37-9)

ACGIH

Remark (ACGIH)

Simple Asphyxiant

#### 8.2. Appropriate engineering controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider the use of a work permit system e.g. for maintenance activities.

Environmental exposure controls

: None necessary.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk.

##### Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection - specifications

##### Respiratory protection:

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Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

### Thermal hazard protection:

None necessary.

### Other information:

Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                              | : Gas   |
| Color                                       | : Mixture contains one or more component(s) which have the following colour(s): Colourless. |
| Odor  | : Odorless  |
| Odor threshold                              | : Odor threshold is subjective and inadequate to warn for overexposure                      |
| pH  | : Not applicable for gas-mixtures.  |
| Melting point                               | : Not applicable for gas-mixtures.  |
| Freezing point                              | : No data available   |
| Boiling point                               | : Not applicable for gas-mixtures.  |
| Flash point                                 | : Not applicable for gas-mixtures.  |
| Relative evaporation rate (butyl acetate=1) | : No data available   |
| Relative evaporation rate (ether=1)         | : Not applicable for gas-mixtures.  |
| 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                        | : Lighter or similar to air   |
| Solubility                                  | : Water: No data available  |
| Log Pow                                     | : Not applicable for gas-mixtures.<br>Not applicable for gas-mixtures.                      |
| Auto-ignition temperature                   | : No data available   |
| Decomposition temperature                   | : No data available   |
| Viscosity, kinematic                        | : Not applicable.   |
| Viscosity, dynamic                          | : Not applicable.   |
| Explosion limits                            | : Not applicable for gas-mixtures.  |
| Explosive properties                        | : Not applicable.   |
| Oxidizing properties                        | : None.   |

### 9.2. Other information

|                        |        |
|------------------------|--------|
| Additional information | : None |
|------------------------|--------|

## 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

None.

### 10.4. Conditions to avoid

None.

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### 10.5. Incompatible materials

None.

### 10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Oxygen (7782-44-7)

|                           |                    |
|---------------------------|--------------------|
| LC50 inhalation rat (ppm) | 800000 ppm/4h      |
| ATE US (gases)            | 800000.000 ppmV/4h |

#### Nitrogen (7727-37-9)

|                           |                    |
|---------------------------|--------------------|
| LC50 inhalation rat (ppm) | 820000 ppm/4h      |
| ATE US (gases)            | 820000.000 ppmV/4h |

Skin corrosion/irritation : Not classified  
pH: Not applicable for gas-mixtures.

Serious eye damage/irritation : Not classified  
pH: Not applicable for gas-mixtures.

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

Symptoms/effects after inhalation : None under normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

### 12.2. Persistence and degradability

#### Oxygen (19.5 - 23.5%) in balance Nitrogen

|                               |                    |
|-------------------------------|--------------------|
| Persistence and degradability | No data available. |
|-------------------------------|--------------------|

#### Oxygen (7782-44-7)

|                               |  |
|-------------------------------|--|
| Persistence and degradability | No ecological damage caused by this product. |
|-------------------------------|--|

#### Nitrogen (7727-37-9)

|                               |  |
|-------------------------------|--|
| Persistence and degradability | No ecological damage caused by this product. |
|-------------------------------|--|

### 12.3. Bioaccumulative potential

#### Oxygen (19.5 - 23.5%) in balance Nitrogen

|                           |                                  |
|---------------------------|----------------------------------|
| Log Pow                   | Not applicable for gas-mixtures. |
| Log Kow                   | Not applicable for gas-mixtures. |
| Bioaccumulative potential | No data available.               |

#### Oxygen (7782-44-7)

|                           |  |
|---------------------------|--|
| Log Pow                   | Not applicable for inorganic gases.          |
| Bioaccumulative potential | No ecological damage caused by this product. |

#### Nitrogen (7727-37-9)

|         |                                     |
|---------|-------------------------------------|
| Log Pow | Not applicable for inorganic gases. |
|---------|-------------------------------------|

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| <b>Nitrogen (7727-37-9)</b> |  |
|-----------------------------|--|
| Bioaccumulative potential   | No ecological damage caused by this product. |

### 12.4. Mobility in soil

| <b>Oxygen (19.5 - 23.5%) in balance Nitrogen</b> |                   |
|--|-------------------|
| Mobility in soil                                 | No data available |

### Oxygen (7782-44-7)

|                |  |
|----------------|--|
| Ecology - soil | No ecological damage caused by this product. |
|----------------|--|

### Nitrogen (7727-37-9)

|                |  |
|----------------|--|
| Ecology - soil | No ecological damage caused by this product. |
|----------------|--|

### 12.5. Other adverse effects

|                          |                                       |
|--------------------------|---------------------------------------|
| Effect on ozone layer    | : None                                |
| Effect on global warming | : No known effects from this product. |
| GWPmix comment           | : No known effects from this product. |

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

|                          |  |
|--------------------------|--|
| Waste treatment methods  | : May be vented to atmosphere. Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <a href="http://www.eiga.org">http://www.eiga.org</a> for more guidance on suitable disposal methods. |
| Additional information   | : None.  |
| List of hazardous wastes | : 16 05 05 : Gases in pressure containers other than those mentioned in 16 05 04.  |

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s., 2.2

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, 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



DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305

DOT Packaging Bulk (49 CFR 173.xxx) : 314;315

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Emergency Response Guide (ERG) Number : 126

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.

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### Transportation of Dangerous Goods

#### Transport by sea

Transport document description (IMDG) : UN 1956 Compressed gas, n.o.s., 2.2  
UN-No. (IMDG) : 1956  
Proper Shipping Name (IMDG) : Compressed gas, n.o.s.  
Class (IMDG) : 2 - Gases  
Limited quantities (IMDG) : 120 ml

#### Air transport

Transport document description (IATA) : UN 1956 Compressed gas, n.o.s., 2.2  
UN-No. (IATA) : 1956  
Proper Shipping Name (IATA) : Compressed gas, n.o.s.  
Class (IATA) : 2

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Oxygen (7782-44-7)

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

#### Nitrogen (7727-37-9)

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

### 15.2. International regulations

#### CANADA

#### Oxygen (7782-44-7)

Listed on the Canadian DSL (Domestic Substances List)

#### Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

#### Oxygen (7782-44-7)

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

#### Nitrogen (7727-37-9)

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

#### National regulations

#### Oxygen (7782-44-7)

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

#### Nitrogen (7727-37-9)

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

### 15.3. US State regulations

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### Oxygen (7782-44-7)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

### Nitrogen (7727-37-9)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Revision date : 05/15/2018

Training advice : Receptacle under pressure.

Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of H-phrases:

|      |  |
|------|--|
| H270 | May cause or intensify fire; oxidizer              |
| H280 | Contains gas under pressure; may explode if heated |

SDS US (GHS HazCom 2012)

*This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this gas mixture. To the best of Calgaz's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.*