

SECTION 1: Identification**1.1. Product identifier**

Product form : Mixture
Product name : P-18-27290
Other means of identification : OX - SD 60-70%
Product group : Specialty Mixtures

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Praxair Canada inc.
1200 – 1 City Centre Drive
Mississauga - Canada L5B 1M2
T 1-905-803-1600 - F 1-905-803-1682
www.praxair.ca

1.4. Emergency telephone number

Emergency number : 1-800-363-0042
Call emergency number 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product.
For routine information, contact your supplier or Praxair sales representative.

SECTION 2: Hazard identification**2.1. Classification of the substance or mixture****GHS-CA classification**

Ox. Gas 1	H270
Liquefied gas	H280
Acute Tox. 3 (Inhalation:gas)	H331
Skin Corr. 1B	H314
Eye Dam. 1	H318

2.2. GHS Label elements, including precautionary statements**GHS-CA labelling**

Hazard pictograms :



GHS03

GHS04

GHS05

GHS06

Signal word : DANGER

Hazard statements : MAY CAUSE OR INTENSIFY FIRE; OXIDIZER
CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
CAUSES SEVERE SKIN BURNS AND EYE DAMAGE
TOXIC IF INHALED
CORROSIVE TO THE RESPIRATORY TRACT

Precautionary statements : Keep away from clothing and other combustible materials
Keep container tightly closed.
Keep valves and fittings free from oil and grease
Do not breathe gas/vapours
Avoid breathing gas, vapours
Wash exposed skin thoroughly after handling
Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face



P-18-27290

Safety Data Sheet P-18-27290

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 06-27-2017

Revision date: 07-04-2017

protection.

In case of fire: Stop leak if safe to do so

Store locked up

Dispose of contents/container in accordance with container Supplier/owner instructions.

Protect from sunlight when ambient temperature exceeds 52°C (125°F).

Use a back flow preventive device in the piping.

Close valve after each use and when empty.

Use only with equipment of compatible materials of construction and rated for cylinder pressure.

Do not open valve until connected to equipment prepared for use.

When returning cylinder, install leak tight valve outlet cap or plug.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	CAS No.	% (Vol)	Common Name (synonyms)
Sulfur dioxide	(CAS No) 7446-09-5	60 - 70	Sulphur dioxide / Sulphurous anhydride / Sulfur(IV) oxide / Sulfur dioxide, anhydrous
Oxygen	(CAS No) 7782-44-7	30 - 40	Oxygen (dissolved) / Oxygen gas / Oxygen, compressed / Oxygen, dissolved

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.

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..

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

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

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

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

5.4. Special protective equipment and precautions for fire-fighters

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 their provincial and local fire code regulations.

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

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P-18-27290

Safety Data Sheet P-18-27290

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Date of issue: 06-27-2017

Revision date: 07-04-2017

Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.2. Methods and materials for containment and cleaning up

6.3. Reference to other sections

For further information refer to section 8: Exposure controls/personal protection

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 in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sulfur dioxide (7446-09-5)		
USA - ACGIH	ACGIH TLV-STEL (ppm)	0.25 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	13 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	5 ppm
Canada (Quebec)	VECD (mg/m ³)	13 mg/m ³
Canada (Quebec)	VECD (ppm)	5 ppm
Canada (Quebec)	VEMP (mg/m ³)	5.2 mg/m ³
Canada (Quebec)	VEMP (ppm)	2 ppm
Alberta	OEL STEL (mg/m ³)	13 mg/m ³
Alberta	OEL STEL (ppm)	5 ppm
Alberta	OEL TWA (mg/m ³)	5.2 mg/m ³
Alberta	OEL TWA (ppm)	2 ppm
British Columbia	OEL STEL (ppm)	5 ppm
British Columbia	OEL TWA (ppm)	2 ppm

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Sulfur dioxide (7446-09-5)		
Manitoba	OEL STEL (ppm)	0.25 ppm
New Brunswick	OEL STEL (mg/m ³)	13 mg/m ³
New Brunswick	OEL STEL (ppm)	5 ppm
New Brunswick	OEL TWA (mg/m ³)	5.2 mg/m ³
New Brunswick	OEL TWA (ppm)	2 ppm
New Foundland & Labrador	OEL STEL (ppm)	0.25 ppm
Nova Scotia	OEL STEL (ppm)	0.25 ppm
Nunavut	OEL STEL (ppm)	5 ppm
Nunavut	OEL TWA (ppm)	2 ppm
Northwest Territories	OEL STEL (ppm)	5 ppm
Northwest Territories	OEL TWA (ppm)	2 ppm
Ontario	OEL STEL (mg/m ³)	10.4 mg/m ³
Ontario	OEL STEL (ppm)	5 ppm
Ontario	OEL TWA (mg/m ³)	5.2 mg/m ³
Ontario	OEL TWA (ppm)	2 ppm
Prince Edward Island	OEL STEL (ppm)	0.25 ppm
Québec	VECD (mg/m ³)	13 mg/m ³
Québec	VECD (ppm)	5 ppm
Québec	VEMP (mg/m ³)	5.2 mg/m ³
Québec	VEMP (ppm)	2 ppm
Saskatchewan	OEL STEL (ppm)	5 ppm
Saskatchewan	OEL TWA (ppm)	2 ppm
Yukon	OEL STEL (mg/m ³)	13 mg/m ³
Yukon	OEL STEL (ppm)	5 ppm
Yukon	OEL TWA (mg/m ³)	13 mg/m ³
Yukon	OEL TWA (ppm)	5 ppm

8.2. Appropriate engineering 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. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment : Gloves. Face shield. Safety glasses.



Hand protection : Wear work gloves when handling containers. Wear heavy rubber gloves where contact with product may occur.

Eye protection : Provide readily accessible eye wash stations and safety showers. Wear safety glasses with side shields. Safety eye wear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

Respiratory protection : **Respiratory protection:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local bylaws or guidelines. Selection should be based on the current CSA standard Z94.4, "Selection, Care, and Use of Respirators." Respirators should also be approved by NIOSH and MSHA. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections.



P-18-27290

Safety Data Sheet P-18-27290

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 06-27-2017

Revision date: 07-04-2017

Other information : Consider the use of flame resistant safety clothing. **Other protection** : Safety shoes for general handling at customer sites. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines. For working with flammable and oxidizing materials, consider the use of flame resistant anti-static safety clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : No data available
Colour : Colourless.
Odour : No data available.
Odour threshold : No data available
pH : Not applicable.
pH solution : No data available
Relative evaporation rate (butylacetate=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
Vapour pressure : Not applicable.
Vapour pressure at 50 °C : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Relative density of saturated gas/air mixture : No data available
Density : No data available
Relative gas density : No data available
Solubility : Water: No data available
Log Pow : Not applicable.
Log Kow : Not applicable.
Viscosity, kinematic : Not applicable.
Viscosity, dynamic : Not applicable.
Viscosity, kinematic (calculated value) (40 °C) : No data available
Explosive properties : Not applicable.
Oxidizing properties : Oxidizer.
Flammability (solid, gas) :
Flammable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity : No reactivity hazard other than the effects described in sub-sections below.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Violently oxidizes organic material.
Conditions to avoid : Avoid moisture in installation systems.
Incompatible materials : May react violently with combustible materials. May react violently with reducing agents.

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P-18-27290

Safety Data Sheet P-18-27290

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 06-27-2017

Revision date: 07-04-2017

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Inhalation:gas: TOXIC IF INHALED.

ATE CA (gases)	1889.0554722639 ppmv/4h
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Sulfur dioxide (7446-09-5)

LC50 inhalation rat (ppm)	1260 ppm/4h
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Skin corrosion/irritation : CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
pH: Not applicable.

Serious eye damage/irritation : CAUSES SERIOUS EYE DAMAGE.
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

No additional information available

12.2. Persistence and degradability

P-18-27290	
Persistence and degradability	No ecological damage caused by this product.

Sulfur dioxide (7446-09-5)	
Persistence and degradability	Not applicable for inorganic gases.

Oxygen (7782-44-7)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

P-18-27290	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

Sulfur dioxide (7446-09-5)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No data available.

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

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P-18-27290

Safety Data Sheet P-18-27290

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 06-27-2017

Revision date: 07-04-2017

12.4. Mobility in soil

P-18-27290

Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.

Sulfur dioxide (7446-09-5)

Log Pow	Not applicable for inorganic gases.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Oxygen (7782-44-7)

Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects	: May cause pH changes in aqueous ecological systems.
Effect on the ozone layer	: None.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.
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SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

TDG

UN-No. (TDG)	: UN3310
TDG Primary Hazard Classes	: 2.3 - Class 2.3 - Toxic Gas.
TDG Subsidiary Classes	: 5.1;8
Proper shipping name	: LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. INHALATION HAZARD

ERAP Index	: 25
Explosive Limit and Limited Quantity Index	: 0

14.3. Air and sea transport

IMDG

UN-No. (IMDG)	: 3310
Proper Shipping Name (IMDG)	: LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.
Class (IMDG)	: 2.3 - Toxic gases

IATA

UN-No. (IATA)	: 3310
Proper Shipping Name (IATA)	: LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.
Class (IATA)	: 2

SECTION 15: Regulatory information

15.1. National regulations

Sulfur dioxide (7446-09-5)

Listed on the Canadian DSL (Domestic Substances List)

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P-18-27290

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Oxygen (7782-44-7)

Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

Sulfur dioxide (7446-09-5)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
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 the United States TSCA (Toxic Substances Control Act) inventory
Listed on INSQ (Mexican National Inventory of Chemical Substances)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
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 the United States TSCA (Toxic Substances Control Act) inventory
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16: Other information

Date of issue : 27/06/2017

Revision date : 04/07/2017

Indication of changes:

Training advice : Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

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.

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