

SECTION 1: Identification

1.1. Product identifier

Product form : Substance
Name : Air, refrigerated liquid
CAS No : 132259-10-0
Formula : Air: mixture of 19.5 to 23.5 percent oxygen, balance nitrogen; or air compressed from the atmosphere and liquefied
Other means of identification : Synthetic air, reconstituted air, Liquid Air
Product group : Core Products

1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Industrial use
Use as directed

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
Compressed gas H280

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms :



GHS03

GHS04

Signal word : DANGER

Hazard statements : MAY CAUSE OR INTENSIFY FIRE; OXIDIZER
CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

Precautionary statements : Do not handle until all safety precautions have been read and understood
Use a back flow preventive device in the piping
Protect from sunlight when ambient temperature exceeds 52°C (125°F)
Close valve after each use and when empty
Use only with equipment rated for cylinder pressure
Use only with equipment of compatible materials of construction and rated for cylinder pressure
Read and follow the Safety Data Sheet (SDS) before use



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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

Name : Air, refrigerated liquid
CAS No : 132259-10-0

Name	CAS No.	% (Vol.)	Common Name (synonyms)
Air	(CAS No) 132259-10-0	100	Air, compressed / Air, refrigerated liquid / Ambient air

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Adverse effects not expected from this product.
First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.
First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.. Get immediate medical attention.
First-aid measures after ingestion : Ingestion is not considered a potential route of exposure. The liquid may cause frostbite.

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 : None.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : May accelerate combustion. Avoid contact with combustible materials. 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

Fire hazard : MAY INTENSIFY FIRE; OXIDIZER.
Reactivity : None.
Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.



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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
- Oxidizing agent; may accelerate combustion. Contact with flammable materials may cause fire or explosion. Container may rupture due to heat of fire. Liquid air may freeze water rapidly. Containers are equipped with a pressure relief device designed to vent contents when exposed to elevated temperature. Do not walk or roll equipment over spill, as this could cause an explosion. Liquid causes severe frostbite. Smoking, flames, and electric sparks in the presence of enriched oxygen atmospheres are potential explosion hazards. Air is continuously vented from pressure-control valves on container.
- Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
- Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Extremely cold oxidizing liquid and gas. Allow spilled liquid to evaporate. Do not walk or roll equipment over spill, as this could cause an explosion. Contact with flammable materials may cause fire or explosion. Shut off leak if safe to do so. Ventilate area of leak or move leaking container to ventilated area.

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 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.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

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



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

Eye protection : Wear safety glasses with side shields. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

Skin and body protection : Wear cold-insulating gloves/face shield/eye protection.

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).

Other information : **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	: Liquid
Appearance	: Colorless gas.
Molecular mass	: 28.975 g/mol
Colour	: Colourless.
Odour	: Odourless.
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	: -216.2 °C (-357.2°F)
Boiling point	: -194.3 °C (-317.7°F)
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	: 0.874 @ -194.3°C/-317.7°F
Relative density of saturated gas/air mixture	: No data available



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Density	: 1.2 kg/m ³
Relative gas density	: 1
Solubility	: Water: 0.0292 %
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)	: Non flammable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	: None.
Chemical stability	: Stable under normal conditions.
Incompatible materials	: Flammable materials. Avoid oil, grease and all other combustible materials. Activated carbon. Dimethyl Ether.
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 (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified pH: Not applicable.
Serious eye damage/irritation	: Not classified pH: Not applicable.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: No ecological damage caused by this product.
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12.2. Persistence and degradability

Air, refrigerated liquid (132259-10-0)

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

Air (132259-10-0)

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

12.3. Bioaccumulative potential

Air, refrigerated liquid (132259-10-0)

Log Pow : Not applicable.

Log Kow : Not applicable.

Bioaccumulative potential : No ecological damage caused by this product.

Air (132259-10-0)

Log Pow : Not applicable for inorganic gases.

Bioaccumulative potential : No ecological damage caused by this product.

12.4. Mobility in soil

Air, refrigerated liquid (132259-10-0)

Mobility in soil : No data available.

Log Pow : Not applicable.

Log Kow : Not applicable.

Air (132259-10-0)

Log Pow : Not applicable for inorganic gases.

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

12.5. Other adverse effects

Effect on the ozone layer : None

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

TDG

UN-No. (TDG) : UN1003
TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.
TDG Subsidiary Classes : 5.1
Proper shipping name : AIR, REFRIGERATED LIQUID

ERAP Index : 3 000
Explosive Limit and Limited Quantity Index : 0.125 L
Passenger Carrying Ship Index : Forbidden
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : Forbidden

14.3. Air and sea transport

IMDG

UN-No. (IMDG) : 1003
Proper Shipping Name (IMDG) : AIR, REFRIGERATED LIQUID
Class (IMDG) : 2 - Gases

IATA

UN-No. (IATA) : 1003

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Proper Shipping Name (IATA) : Air, refrigerated liquid
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. National regulations

No additional information available

15.2. International regulations

Air (132259-10-0)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on NZIoC (New Zealand Inventory of Chemicals)

SECTION 16: Other information

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Indication of changes:

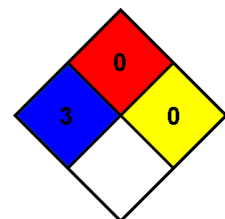
Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using 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 Canada 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 Canada Inc, it is the user's obligation to determine the conditions of safe use of the product. Praxair Canada Inc, SDSs are furnished on sale or delivery by Praxair Canada Inc, 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.ca. 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 Praxair Canada Inc, (Phone: 1-888-257-5149; Address: Praxair Canada Inc, 1 City Centre Drive, Suite 1200, Mississauga, Ontario, L5B 1M2).

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NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was 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.



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HMIS III Rating

Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	: 0 Minimal Hazard - Materials that will not burn
Physical	: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

SDS Canada (GHS) - 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.

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