

Material Safety Data Sheet

Airgas®

Air

Section 1. Chemical product and company identification

Product name : Air

Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

Product use : Synthetic/Analytical chemistry.

Synonym : Compressed Air ; Breathing Quality Air ; synthetic air, reconstituted air, medical air, medical air USP.

MSDS # : 001002

Date of Preparation/Revision : 5/28/2013.

In case of emergency : 1-866-734-3438

A1BC23

Section 2. Hazards identification

Physical state : Gas.

Emergency overview : WARNING!
CONTENTS UNDER PRESSURE.MAY ACCELERATE COMBUSTION.
COMPRESSED AIR IS A COLORLESS, ODORLESS, TASTELESS GAS AT NORMAL TEMPERATURE AND PRESSURE.
Do not puncture or incinerate container.
Contact with rapidly expanding gases can cause frostbite.

Routes of entry : Inhalation

Potential acute health effects

Eyes : Contact with rapidly expanding gas may cause burns or frostbite.

Skin : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : "None expected"

Ingestion : Ingestion is not a normal route of exposure for gases

Medical conditions aggravated by over-exposure : None known.

See toxicological information (Section 11)

Section 3. Composition, Information on Ingredients

| <u>Name</u> | <u>CAS number</u> | <u>% Volume</u> | <u>Exposure limits</u> |
|-------------|-------------------|-----------------|-------------------------------|
| Nitrogen | 7727-37-9 | 76.5 - 80.5 | Oxygen Depletion [Asphyxiant] |
| Oxygen | 7782-44-7 | 19.5 - 23.5 | |

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training.If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : None expected.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Inhalation : None expected.

Ingestion : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

- Flammability of the product** : Non-flammable.
- Products of combustion** : Decomposition products may include the following materials:
nitrogen oxides
- Fire-fighting media and instructions** : Use an extinguishing agent suitable for the surrounding fire.
- Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.
- Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions** : Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations.
- Methods for cleaning up** : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

- Handling** : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Storage** : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

- Engineering controls** : Not applicable
- Personal protection**
- Eyes** : Safety eyewear 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.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : No special protection is required. However, air supplied respirators are required while working in oxygen deficient atmospheres such as confined spaces.
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name

Nitrogen
Oxygen

Oxygen Depletion [Asphyxiant]

Consult local authorities for acceptable exposure limits.

Air

Section 9. Physical and chemical properties

Boiling/condensation point : -194.3°C (-317.7°F)
Melting/freezing point : -216.2°C (-357.2°F)
Critical temperature : Lowest known value: -146.9°C (-232.4°F) (Nitrogen).
Vapor density : Highest known value: 1.1 (Air = 1) (Oxygen). Weighted average: 1 (Air = 1)
Gas Density (lb/ft³) : 0.0749

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.
Incompatibility with various substances : Not considered to be reactive according to our database.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

Chronic effects on humans : None known.
Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic effects : No known significant effects or critical hazards.
Mutagenic effects : No known significant effects or critical hazards.
Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity



Not available.


Products of degradation : Products of degradation: nitrogen oxides (NO, NO₂ etc.).
Environmental fate : Not available.
Environmental hazards : No known significant effects or critical hazards.
Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|------------------------|-----------|----------------------|-------|-----------------------|---|--|
| DOT Classification | UN1002 | Air, compressed | 2.2 | Not applicable (gas). |  | - |
| TDG Classification | UN1002 | Air, compressed | 2.2 | Not applicable (gas). |  | Explosive Limit and Limited Quantity Index 0.125 |

| | | | | | | |
|------------------------------|--------|-----------------|-----|-----------------------|---|--|
| Air | | | | | | |
| | | | | | | Passenger Carrying Road or Rail Index 75 |
| Mexico Classification | UN1002 | Air, compressed | 2.2 | Not applicable (gas). |  | - |

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Section 15. Regulatory information

United States

U.S. Federal regulations : TSCA 8(a) IUR: Partial exemption
United States inventory (TSCA 8b): All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: nitrogen; oxygen
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
nitrogen: Sudden release of pressure; oxygen: Fire hazard, Sudden release of pressure, Delayed (chronic) health hazard

State regulations : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: NITROGEN; OXYGEN (LIQUID)
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: NITROGEN; OXYGEN
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: NITROGEN; OXYGEN
Rhode Island Hazardous Substances: None of the components are listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.
CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Section 16. Other information

United States

Label requirements : CONTENTS UNDER PRESSURE.MAY ACCELERATE COMBUSTION.
COMPRESSED AIR IS A COLORLESS, ODORLESS, TASTELESS GAS AT NORMAL
TEMPERATURE AND PRESSURE.

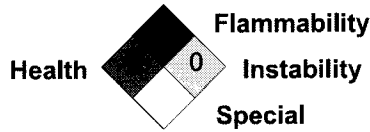
Canada

Label requirements : Class A: Compressed gas.

Hazardous Material Information System (U.S.A.)

| | |
|------------------|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazards | 0 |
| | |

National Fire Protection Association (U.S.A.)



Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.