



MATERIAL SAFETY DATA SHEET

AIR

CHEMICAL PRODUCT

PRODUCT NAME: Air, compressed.

CHEMICAL NAME: Air.

CHEMICAL FAMILY: Nonflammable gas.

SYMBOL: N/A.

SYNONYMS: Medical Air, Breathing Air, Compressed Air, Air, Ultra zero.

[USES]: Various.

INGREDIENT COMPOSITION INFORMATION

COMPONENT	MOLE%	WEIGHT%
Nitrogen	78.084	75.521
Oxygen	20.946	23.139
Argon	0.934	1.288
Carbon Dioxide	0.033	0.050
<u>Rare Gases</u>	<u>0.003</u>	<u>0.002</u>

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! High pressure gas.
May accelerate combustion.

POTENTIAL HEALTH EFFECTS:

ROUTES OF EXPOSURE:

INHALATION: At atmospheric pressure air has no adverse health effects. For elevated pressure exposure see Toxicological Information.

EYE CONTACT: Not applicable

SKIN CONTACT: Not applicable

[SKIN ABSORPTION]: Not applicable

[INGESTION]: Not applicable
CHRONIC EFFECTS: Not established
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None
OTHER EFFECTS OF OVEREXPOSURE: None
CARCINOGENICITY: Air is not listed.

FIRST AID MEASURES

INHALATION: Not applicable
EYE CONTACT: None
SKIN CONTACT: None
INGESTION: None
NOTES TO PHYSICIAN: Not applicable

FIRE FIGHTING MEASURES

FLASH POINT: Not applicable
FLAMMABLE LIMITS IN AIR BY VOLUME: LOWER: Not applicable UPPER: Not applicable
EXTINGUISHING MEDIA: Air is inflammable but will support combustion. Use extinguishing media appropriate for surrounding fire.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Evacuate all persons from the danger area. If possible, shut off flow of air for surrounding fire. immediately cool containers with water spray from maximum distance. When cool, move containers from fire area, if without risk.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Compressed air at high pressures may accelerate combustion of other materials. Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Most cylinders are designed to vent contents when exposed to elevated temperatures.
Pressure in a container can build up due to heat and it may rupture if pressure relief devices should fail to function.
HAZARDOUS COMBUSTION PRODUCTS: None
[SENSITIVITY TO STATIC DISCHARGE]: None
[SENSITIVITY TO MECHANICAL IMPACT]: None
AUTOIGNITION: Not applicable

ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Shut off source of air, if possible. If leaking from cylinder or its valve, contact your supplier.

HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling or being knocked over. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 125°F (52 °C). Full and empty cylinders should be segregated. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time.
PRECAUTIONS TO BE TAKEN IN HANDLING: Use a suitable hand truck for cylinder movement. never attempt to lift a cylinder by its valve protection cap. Keep cylinders and their valves free from oil and grease. Open valve slowly. If user experiences difficulty operating valve, discontinue use and contact supplier. Never insert an object (e.g., wrench, screwdriver, pry, bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Use an adjustable strap wrench to remove over-tight or rusted caps.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

VENTILATION: None required

RESPIRATORY PROTECTION (SPECIFY TYPE):

General Use: Not required

Emergency Use: Not required

PROTECTIVE GLOVES : Work gloves are recommended when handling cylinders. If used, gloves must be clean and free of oil and grease.

EYE PROTECTION : Safety glasses are recommended when handling cylinders

OTHER PROTECTIVE EQUIPMENT : Safety shoes are recommended when handling cylinders.

PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR WEIGHT: 28.960

BOILING POINT (1 ATM): -194.35°C

SPECIFIC GRAVITY:At 70°F(21.1 °C)and 1 atm: 1:00

VAPOR PRESSURE (AT 20°C): Not applicable

ABSOLUTE DENSITY, DRY AIR @ 101.325 kpa @ 0°C = 1.293 1 kg/m³

EVAPORATION RATE (Butyl Acetate =1): Gas, not applicable

SOLUBILITY IN WATER: @ 101.325 kpa (partial pressure of air) @ 20° = 18.68 cm³ air/water

EXPANSION RATIO: Not applicable

[pH]: Not applicable

APPEARANCE, ODOR AND STATE: Colorless, odorless and tasteless gas at normal temperature and pressure.

[COEFFICIENT OF WATER/OIL DISTRIBUTION]: Not applicable

[ODOR THRESHOLD]: Not applicable

STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY (Materials to Avoid) : None

REACTIVITY:

A) HAZARDOUS DECOMPOSITION PRODUCTS: None

B) HAZARDOUS POLYMERIZATION: Will not occur

TOXICOLOGICAL INFORMATION

Air is nontoxic and is necessary to support life. Inhalation of air in high pressure environments can result in symptoms similar to overexposure to oxygen.

These include tingling of fingers, impaired coordination, and confusion. Decompression sickness (Bends) is possible following rapid decompression. Decompression equipment may be required if exposed to a high pressure environment.

ADDITIONAL NOTES TO PHYSICIAN: None

(IRRITANCY OF MATERIAL): None

(SENSITIZATION TO MATERIAL): None

(REPRODUCTIVE EFFECTS): None

(TERATOGENICITY): None

(MUTAGENICITY): None

(SYNERGISTIC MATERIALS): None

ECOLOGICAL INFORMATION

No adverse ecological effects are expected. Air does not contain any Class I or Class II ozone depleting chemicals. Air is not listed as a marine pollutant.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier. For emergency disposal, secure the cylinder and slowly discharge gas to the atmosphere.

TRANSPORT INFORMATION

DOT/IMO SHIPPING NAME: Air, compressed.

HAZARD CLASS: 2.2 (Nonflammable Gas).

PRODUCT RQ: Not applicable.

SHIPPING LABEL(s) : NonFlammable gas.

PLACARD (When required): Nonflammable gas.

SPECIAL SHIPPING INFORMATION : Cylinders should be transported in a secure position, in a well- ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.