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MATERIAL SAFETY DATA SHEET

No. 002

PRODUCT NAME Compressed Air	CAS # N/A
TRADE NAME AND SYNONYMS Compressed Air; Air; Compressed Air, Breathing Quality	DOT I.D. No.: UN 1002
	DOT Hazard Class: Division 2.2
CHEMICAL NAME AND SYNONYMS Air, compressed (D.O.T.) See Page 4	Formula See page 4
	Chemical Family: N/A
ISSUE DATES AND REVISIONS Revised January 1995	

HEALTH HAZARD DATA

<p>TIME WEIGHTED AVERAGE EXPOSURE LIMIT</p> <p>No TWA established (ACGIH 1994-1995). No PEL (8 Hr. TWA) listed by OSHA 1993.</p>
<p>SYMPTOMS OF EXPOSURE</p> <p>Air is nontoxic and necessary to support life. Inhalation of air in a high pressure environment such as underwater diving, caissons or hyperbaric chambers can result in symptoms similar to overexposure to pure oxygen. These include tingling of fingers and toes, abnormal sensations, impaired coordination and confusion. Decompression sickness, pains or "bends" are possible following rapid decompression.</p>
<p>TOXICOLOGICAL PROPERTIES</p> <p>High pressure effects (greater than two atmospheres of oxygen) are on the central nervous system. Improper decompression results in the accumulation of nitrogen in the blood.</p> <p>Air is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.</p> <p>Persons in ill health when such illness would be aggravated by exposure to high pressure air should not be allowed to work with or handle this product.</p>
<p>RECOMMENDED FIRST AID TREATMENT</p> <p>Facilities or practices at which air is breathed in a high pressure environment should be prepared to deal with the illnesses associated with decompression (bends or caisson disease). Decompression equipment may be required.</p>

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Compressed Air

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	
N/A	
PHYSICAL DATA	
BOILING POINT -317.8°F (-194.3°C)	LIQUID DENSITY AT BOILING POINT 54.56 lb/ft ³ (874 kg/m ³)
VAPOR PRESSURE @ 70°F (21.1°C): Above the critical temp. of -221.1°F (-140.6°F)	GAS DENSITY AT 70°F, 1 atm .0749 lb/ft ³ (1.200 kg/m ³)
SOLUBILITY IN WATER Very slightly	FREEZING POINT N/A (Gas Mixture)
EVAPORATION RATE N/A Gas	SPECIFIC GRAVITY (AIR=1) @ 70°F (21.1°C) = 1.0
APPEARANCE AND ODOR Colorless, odorless gas	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N/A	AUTO IGNITION TEMPERATURE N/A	FLAMMABLE LIMITS % BY VOLUME (See Page 4) LE N/A UEL N/A
EXTINGUISHING MEDIA Nonflammable gas		ELECTRICAL CLASSIFICATION Nonhazardous
SPECIAL FIRE FIGHTING PROCEDURES If cylinders are involved in a fire, safely relocate or keep cool with water spray.		
UNUSUAL FIRE AND EXPLOSION HAZARDS Compressed air at high pressures will accelerate the burning of materials to a greater rate than they burn at atmospheric pressure.		

REACTIVITY DATA

STABILITY Unstable		CONDITIONS TO AVOID None
Stable	X	
INCOMPATIBILITY (Materials to avoid) None		
HAZARDOUS DECOMPOSITION PRODUCTS None		
HAZARDOUS POLYMERIZATION May Occur		CONDITIONS TO AVOID None
Will Not Occur	X	

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED N/A
WASTE DISPOSAL METHOD N/A

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) N/A		
VENTILATION N/A	LOCAL EXHAUST N/A	SPECIAL N/A
	MECHANICAL (Gen.) N/A	OTHER N/A
PROTECTIVE GLOVES Any material		
EYE PROTECTION Safety goggles or glasses		
OTHER PROTECTIVE EQUIPMENT Safety shoes		

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION		
DOT Shipping Name: Air, Compressed DOT Shipping Label: Nonflammable Gas	DOT Hazard Class: I.D. No.:	Division 2.2 UN 1002
SPECIAL HANDLING RECOMMENDATIONS		
<p>Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3,000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.</p> <p>For additional handling recommendations, consult the Compressed Gas Association's Pamphlets P-1, G-7, and G-7.1.</p>		
SPECIAL STORAGE RECOMMENDATIONS		
<p>Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.</p> <p>For additional storage recommendations, consult the Compressed Gas Association's Pamphlets P-1, G-7, and O-7.1.</p>		
SPECIAL PACKAGING RECOMMENDATIONS		
<p>Dry air is noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they increase in volume and lose their protective role (rust formation). Concentrations of SO₂, Cl₂, salt, etc. in the moisture enhances the rusting of metals in air.</p>		
OTHER RECOMMENDATIONS OR PRECAUTIONS		
<p>Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).</p> <p style="text-align: right;">(Continued on Page 4)</p>		

*Various Government Agencies (i.e. Department of Transportation, Occupational Safety and Health Administration, Food and Drug Administration and others) may have specific regulations concerning the transportation, handling, storage or use of this product which will not be reflected in this data sheet. The customer should review these regulations to ensure that he is in full compliance.

Compressed Air

CHEMICAL FORMULA: (Continued)

Atmospheric air which is compressed is composed of the following concentrations of gases:

<u>Gas</u>	<u>Molar %</u>
Nitrogen	78.09
Oxygen	20.94
Argon	0.93
Carbon Dioxide	0.033*
Neon	18.18×10^{-4}
Helium	5.239×10^{-4}
Krypton	1.139×10^{-4}
Hydrogen	0.5×10^{-4}
Xenon	0.086×10^{-4}
Radon	6×10^{-18}
Water vapor	Varying concentrations

*Concentrations may have slight variations.

Compressed air is also produced by reconstitution using only oxygen and nitrogen. This product contains 79 molar percent nitrogen and 21 molar percent oxygen plus trace amounts of other atmospheric gases which are present in the oxygen and nitrogen.

SPECIAL PRECAUTIONS

OTHER RECOMMENDATIONS OR PRECAUTIONS: (Continued)

Reporting under SARA, Title III, Section 313 not required.

NFPA 704 No. for gaseous air = 0 0 0 None