



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

LABEL IDENTIFIER: Air, Compressed

PRODUCT IDENTIFIER P/N: See Section 16

COMPANY IDENTIFICATION: MINE SAFETY APPLIANCES COMPANY
P.O. Box 439
Pittsburgh, PA 15230
CUSTOMER SERVICE: 1-800-MSA-2222 (8:30 a.m. – 5:00 p.m., USA local time)
EMERGENCY: 1-800-255-3924 (CHEM-TEL, INC.)

2. Composition/Information on Ingredients

	%
Oxygen (CAS Registry Number 7782-44-7)	21
Nitrogen (CAS Registry Number 7727-37-9)	79

OSHA REGULATORY STATUS: Hazardous by definition of Hazard Communication Standard, 29 CFR 1910.1200.

3. Hazards Identification

EMERGENCY OVERVIEW: High pressure gas. May accelerate combustion. Product is odorless, colorless, and nonflammable gas in cylinder. No health effects are known.

POTENTIAL HEALTH EFFECTS: None known

POTENTIAL ENVIRONMENTAL EFFECTS: None known

4. First Aid Measures

No recommendations

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Nonflammable

EXPLOSION HAZARDS: Exposure to intense heat or intense flame may increase cylinder pressure enough to cause rapid venting of cylinder contents through pressure relief device. Cylinder rupture could occur if: 1) cylinder is not full when exposed to intense heat or flame, 2) flame exposure is localized resulting in excessive cylinder wall damage without sufficient increase in pressure, 3) pressure relief device fails to function, or 4) cylinder is damaged.

EXTINGUISHING MEDIA: Product is nonflammable but will support and may accelerate combustion. Use extinguishing media appropriate for surrounding fire. If possible, remove cylinder from fire area or cool with water.



PROTECTION OF FIREFIGHTERS: Wear full fire-fighting turn-out gear (full Bunker gear) and a NIOSH approved self-contained breathing apparatus (SCBA) with full facepiece operated in a positive-pressure mode.

HAZARDOUS COMBUSTION PRODUCTS: None known

6. Accidental Release Measures

GENERAL PROCEDURES: If leaking occurs, empty cylinder and remove from service. See SCBA Level II Maintenance Procedures for proper repair. If not certified to perform level II procedures, return cylinder to MSA Service Center.

PROCEDURES FOR SPILL OR LEAK CLEANUP: None recommended

7. Handling and Storage

GENERAL PROCEDURES: Handle and store Air, Compressed in accordance with Compressed Gas Association (CGA) pamphlet CGA P-1, Safe Handling of Compressed Gases in Containers. Local regulations may require specific equipment for storage or use.

RECOMMENDED WORK PRACTICES:

- Remove from service if cylinder shows evidence of exposure to high heat or flame, e.g., paint turned to a brown or black color, decals charred or missing, gauge lens melted or elastomeric materials distorted.
 - Use only after receiving proper training. Use in accordance with SCBA instructions.
 - Do not use unless cylinder is filled to the full approved pressure.
 - Do not alter, modify, or substitute any components without MSA's written approval.
 - Inspect frequently. Maintain according to the instructions. Repair only by properly trained personnel.
 - Keep oil and grease away.
 - Open valve slowly. Close valve after each use and when empty.
 - If leaking occurs, empty cylinder and remove from service. (See 6. Accidental Release Measures.)
 - Fully recharge cylinder as soon as practicable after use. Cylinders should not be stored partially charged for two reasons:
 - If used partially charged, the duration of the apparatus is reduced.
 - The pressure relief device is only designed to protect a fully charged cylinder from the effects of a fire.
 - For maximum safety, the cylinders should be stored full or at a pressure above ambient but less than 100 psig. Full and empty cylinders should be segregated.
 - Prior to recharging, examine cylinder externally for evidence of high heat exposure, corrosion, or other evidence of significant damage. Refer to the following for additional inspection information:
 - CGA Publication C-6 - Standards for Visual Inspection of Steel Compressed Gas Cylinders,
 - CGA Publication C-6.1 - Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders, and/or
 - CGA Publication C-6.2 - Guidelines for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders.
 - Publications are available from the Compressed Gas Association, Inc., 1725 Jefferson Davis Highway, Arlington, VA 22202-4102. Tel.: (703)412-0900 Web Page: www.cganet.com
- If there is any doubt about the suitability of the cylinder for recharge, it should be returned to a certified hydrostatic test facility for expert examination and testing.

- The cylinder must be retested within the prescribed period and properly labeled to indicate its gaseous service. New labels are restricted items which are not available except through certified hydrostatic test facilities.
- When replacing cylinder valve or after retesting of cylinder, make sure proper cylinder valve, burst disk and O-ring are installed prior to cylinder recharging.
- Establish the service pressure of the cylinder. Type 3AA (steel) cylinders that bear a plus (+) sign stamped after the latest test date may be recharged to a pressure 10% greater than the stamped service pressure, i.e. a cylinder stamped 3AA2015 with a plus (+) sign after the test date may be recharged to 2216 psig. (this applies to steel cylinders only). Steel cylinders without the plus (+) sign stamped after the latest test date must be removed from service. All other cylinders which are not 3AA type shall be filled to the designated service pressure only (as found on the DOT approval or stamping).
For cylinders manufactured under a DOT Special Permit (i.e. DOT-SP #####), the DOT Special Permit should be consulted and is available from the Associate Administrator for Hazardous Materials Special Permits and Approvals, Department of Transportation, Pipeline and Hazardous Materials Safety Administration. Also See Section 14, Transportation Information)
- Appropriately connect the cylinder to the filling system and refill. Terminate the filling when the pressure reaches the service pressure and allow the cylinder to cool to room temperature. If necessary, top-off the cylinder such that the service pressure is attained with the cylinder at a temperature of 70°F. Close the valves on the cylinder and the filling system and remove the cylinder. Apply a leak solution to determine if there is any leakage between the cylinder and the valve. If there is no leakage, the cylinder is ready for use.

STORAGE: Store in a cool, dry area and protect from damage by passing or falling objects. Maximum recommended storage temperature is 125°F.

8. Exposure Controls/Personal Protection

ENGINEERING CONTROLS: None recommended

PERSONAL PROTECTIVE EQUIPMENT: Wear safety glasses with side shield during maintenance procedures.

9. Physical and Chemical Properties

APPEARANCE AND ODOR: Colorless, odorless gas

BOILING POINT: -317.9°F (-194.4°C)

SPECIFIC GRAVITY (H₂O = 1): N/A

VAPOR PRESSURE: N/A

PERCENT VOLATILE BY VOLUME: N/A

VAPOR DENSITY (AIR = 1): 1

SOLUBILITY IN WATER: 1.87% by volume at 68°F (20°C), 1 atmosphere

FORMULA FOR COMPONENTS: N₂, O₂

10. Stability and Reactivity

Keep oil and grease away.



11. Toxicological Information

No known health effects

CARCINOGENICITY DATA: Nitrogen and oxygen are not listed in the National Toxicology Program (NTP) Annual Report on Carcinogens, not found to be potential carcinogens in the International Agency for Research on Cancer (IARC) Monographs, not listed as carcinogens by OSHA.

12. Ecological Information

No known ecological effects

13. Disposal Considerations

WASTE DISPOSAL: Do not puncture, crush or incinerate cylinder/valve assembly. Before discarding assembly, slowly release contents to atmospheric pressure. Dispose in accordance with local, state, and federal laws and regulations.

14. Transport Information

This product is a U.S. Department of Transportation (DOT) Hazardous Material:

Proper Shipping Name:	Air, compressed
Hazard Class or Division:	2.2
Identification Number:	UN1002
Packing Group:	None assigned

Shipper should also check cylinder label for applicable U.S. DOT Special Permit number and review copy of the corresponding Special Permit which is available from the Associate Administrator for Hazardous Materials Special Permits and Approvals, U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Hazardous Materials Safety, 1200 New Jersey Avenue, SE East Building, 2nd Floor, Washington, DC 20590. Telephone: (202) 366-5411, Website: www.hazmat.dot.gov. Also, copies of the DOT Special Permits are available through MSA's PRISM Database on the website: www.msanet.com/prism.

15. Regulatory Information

To maintain NIOSH approval of the respirator under 42 CFR Part 84, container must be fully charged with respirable air meeting the requirements of the Compressed Gas Association Specification, G-7.1 1989 for Quality Verification Level (Grade) D air, or equivalent specification.



16. Other Information

Product Identifier P/N and Maximum Pressure for Cylinder and Valve Assemblies:

P/N 77140 - 2490 PSIG	P/N 492284 - 4500 PSIG	P/N 815068 - 4500 PSIG
P/N 83867 - 1980 PSIG	P/N 492285 - 2216 PSIG	P/N 815069 - 4500 PSIG
P/N 94007 - 2216 PSIG	P/N 492286 - 2216 PSIG	P/N 815070 - 3000 PSIG
P/N 94008 - 2216 PSIG	P/N 492287 - 2216 PSIG	P/N 815952 - 4500 PSIG
P/N 96337 - 2216 PSIG	P/N 493998 - 3000 PSIG	P/N 816030 - 4500 PSIG
P/N 454081 - 2475 PSIG	P/N 494021 - 3000 PSIG	P/N 816031 - 4500 PSIG
P/N 455660 - 2310 PSIG	P/N 494886 - 3000 PSIG	P/N 816048 - 4500 PSIG
P/N 455943 - 1980 PSIG	P/N 494887 - 3000 PSIG	P/N 816115 - 3000 PSIG
P/N 456104 - 2216 PSIG	P/N 801279 - 2216 PSIG	P/N 816116 - 4500 PSIG
P/N 460320 - 2216 PSIG	P/N 801280 - 2216 PSIG	P/N 816263 - 4500 PSIG
P/N 465238 - 2490 PSIG	P/N 801281 - 2216 PSIG	P/N 816329 - 4500 PSIG
P/N 469619 - 2216 PSIG	P/N 801284 - 4500 PSIG	P/N 816330 - 2216 PSIG
P/N 470867 - 4500 PSIG	P/N 801285 - 4500 PSIG	P/N 816937 - 3000 PSIG
P/N 473262 - 4500 PSIG	P/N 801286 - 4500 PSIG	P/N 818159 - 2216 PSIG
P/N 473579 - 2216 PSIG	P/N 801287 - 4500 PSIG	P/N 10008298 - 2216 PSIG
P/N 473581 - 2216 PSIG	P/N 801288 - 3000 PSIG	P/N 10008299 - 3000 PSIG
P/N 473582 - 2216 PSIG	P/N 801289 - 3000 PSIG	P/N 10042423 - 3000 PSIG
P/N 473583 - 2216 PSIG	P/N 802191 - 3000 PSIG	P/N 10042420 - 3000 PSIG
P/N 473584 - 2216 PSIG	P/N 806933 - 4500 PSIG	P/N 10062196 - 2216 PSIG
P/N 473585 - 2216 PSIG	P/N 807000 - 4500 PSIG	P/N 10035644 - 4500 PSIG
P/N 473853 - 2216 PSIG	P/N 807002 - 4500 PSIG	P/N 10030661 - 4500 PSIG
P/N 474156 - 4500 PSIG	P/N 807570 - 4500 PSIG	P/N 10061364 - 2216 PSIG
P/N 474157 - 4500 PSIG	P/N 807586 - 2216 PSIG	P/N 10061365 - 3000 PSIG
P/N 474931 - 2310 PSIG	P/N 807587 - 4500 PSIG	P/N 10061366 - 3000 PSIG
P/N 475877 - 2216 PSIG	P/N 807588 - 4500 PSIG	P/N 10061367 - 3000 PSIG
P/N 476131 - 2475 PSIG	P/N 809872 - 2216 PSIG	P/N 10065044 - 3000 PSIG
P/N 489020 - 3000 PSIG	P/N 812639 - 3000 PSIG	P/N 10030618 - 4500 PSIG
P/N 489023 - 3000 PSIG	P/N 813312 - 3000 PSIG	P/N 10062197 - 4500 PSIG
P/N 492283 - 4500 PSIG	P/N 815067 - 4500 PSIG	

WARNING: This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.