

Ellenbarrie Industrial Gases Limited Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Air, compressed Chemical Name: Air, mixture of nitrogen and oxygen (mixture of 19.5-23.5% oxygen, balance nitrogen, or air compressed from the atmosphere) Chemical Family: Not applicable. Telephone: Emergencies:	*033-25828791 *033-27094398 *08924-205105	Trade Names: Air, Synonyms: Not available Product Grades: NA Supplier Ellenbarrie Industrial Gases Limited. /Manufacture: 3A, Ripon Street, Kolkata-700016 Phone: 033-22292441, 22291923, 22491922 Fax: 033-22493396
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* Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Ellenbarrie Industrial Gases Limited sales representative.

2. Composition/Information on Ingredients

COMPONENT	CAS NUMBER	CONCENTRATION
Air:	132259-10-0	---
Oxygen	7782-44-7	19.5-23.5%
Nitrogen	7727-37-9	76.5-80.5%

3. Hazards Identification

EMERGENCY OVERVIEW

CAUTION!!! High-pressure gas. May accelerate combustion. Compressed air is a colorless, odorless, tasteless gas at normal temperature and pressure.

POTENTIAL HEALTH EFFECTS:

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE

INHALATION:	No harm expected.
SKIN CONTACT:	No harm expected.
SWALLOWING:	This product is a gas at normal temperature and pressure.
EYE CONTACT:	No harm expected.
EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:	None known. Other Effects of Overexposure. None known
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:	None known
POTENTIAL ENVIRONMENTAL EFFECTS:	None known.
CARCINOGENICITY:	None of the components of this product is listed by NTP, OSHA, or IARC.

4. First Aid Measures

INHALATION:	No emergency care anticipated.
SKIN CONTACT:	Flush with water. If discomfort persists, seek medical attention.
SWALLOWING:	No emergency care anticipated.
EYE CONTACT:	Flush eyes thoroughly with water. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. If discomfort persists, seek medical attention.

5. Fire Fighting Measures

FLAMMABLE PROPERTIES:

Oxidizing agent; may accelerate combustion.

SUITABLE EXTINGUISHING MEDIA:

Air cannot catch fire. Use media appropriate for surrounding fire.

PRODUCTS OF COMBUSTION:

Not applicable.

PROTECTION OF FIREFIGHTERS:

CAUTION! High-pressure gas. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk.

SPECIFIC PHYSICAL AND CHEMICAL HAZARDS:

Contact with flammable materials may cause fire or explosion. Heat of fire can build pressure in cylinder and cause it to rupture. No part of cylinder should be subjected to a temperature higher than 125°F (52°C). Compressed air cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.)

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:

Firefighters should wear personal protective equipment and fire-fighting turnout gear as appropriate for surrounding fire.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION! High-pressure gas.

PERSONAL PRECAUTIONS:

Shut off flow if without risk.

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. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING:

May accelerate combustion! Keep oil and grease away. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. 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. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. Close valve after each use; keep closed even when empty. For other precautions in using air, see section 16.

PRECAUTIONS TO BE TAKEN IN STORAGE:

Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

8. Exposure Controls/Personal Protection

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2006)
Oxygen	Not Established.	Not Established
Nitrogen	Not Established	Simple asphyxiant
IDLH:		None established.
ENGINEERING CONTROLS:		
Local Exhaust:		Not applicable.
Mechanical (General):		Adequate.
Special:		Not applicable.
Other:		Not applicable.
PERSONAL PROTECTIVE EQUIPMENT:		
Skin Protection:		Wear work gloves and metatarsal shoes for cylinder handling. Select shoes in accordance with IS 10667. For welding, see section 16. Regardless of protective equipment, never touch live electrical parts.
Eye/Face Protection:		Wear safety glasses when handling cylinders. Select per IS 5983.
Respiratory Protection:		Not required.

9. Physical and Chemical Properties

APPEARANCE:	Colorless gas	
ODOR:	None	
ODOR THRESHOLD:	Not applicable.	
PHYSICAL STATE:	Gas at normal temperature and pressure	
pH:	Not applicable.	
FREEZING POINT at 1 atm.:	-357.2°F (-216.2°C)	
BOILING POINT at 1 atm.:	-317.8°F (-194.3°C)	
FLASH POINT (test method):	Not applicable.	
EVAPORATION RATE (Butyl Acetate = 1):	Not applicable.	
FLAMMABILITY:	Nonflammable	
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: Not applicable.	UPPER: Not applicable.
VAPOR PRESSURE:	Not applicable.	
GAS DENSITY at 70°F (21.1°C) and 1 atm:	0.07493 lb/ft ³ (1.2000 kg/m ³)	
SPECIFIC GRAVITY (Air = 1) at 70°F (21.1°C) and 1 atm:	1.00	
SOLUBILITY IN WATER vol/vol at 32°F (0°C) and 1 atm:	0.0292%	
PARTITION COEFFICIENT: n-octanol/water:	Not available.	
AUTOIGNITION TEMPERATURE:	Not applicable.	
DECOMPOSITION TEMPERATURE:	None	
PERCENT VOLATILES BY VOLUME:	100	
MOLECULAR WEIGHT:	28.975	
MOLECULAR FORMULA:	Mixture of N ₂ & O ₂	

10. Stability and Reactivity

CHEMICAL STABILITY:	Stable
CONDITIONS TO AVOID:	None known.
INCOMPATIBLE MATERIALS:	Flammable and combustible materials.
HAZARDOUS DECOMPOSITION PRODUCTS:	None known.
POSSIBILITY OF HAZARDOUS REACTIONS:	Will Not Occur

11. Toxicological Information

ACUTE DOSE EFFECTS:	Not applicable. The welding process may generate hazardous fumes and gases. (See section 16.)
STUDY RESULTS:	None known.

12. Ecological Information

ECOTOXICITY:	No adverse ecological effects expected.
OTHER ADVERSE EFFECTS:	Air does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD:	Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.
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14. Transport Information

DOT/IMO SHIPPING NAME:	Air, compressed		
HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	
2.2	Not applicable.	UN1002	
SHIPPING LABEL(s):	NON-FLAMMABLE GAS		
PLACARD (when required):	NON-FLAMMABLE GAS		
SPECIAL SHIPPING INFORMATION:	Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, non-ventilated compartment of a vehicle can present serious safety hazards. Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law.		
MARINE POLLUTANTS:	Neither component of air is listed as a marine pollutant by DOT.		

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

The hazard categories for this product are as follows:

IMMEDIATE: No	PRESSURE : Yes
DELAYED : No	REACTIVITY: No
FIRE: No	

16. Other Information

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:

High-pressure gas!! Use piping and equipment adequately designed to withstand pressures to be encountered. Never work on a pressurized system. If there is a leak, close the cylinder valve. Blow the system down in a safe and environmentally sound manner in compliance with all federal, state, and local laws; then repair the leak. Never place a compressed gas cylinder where it may become part of an electrical circuit. When using compressed gases in and around electric welding applications, never ground the cylinders. Grounding exposes the cylinders to damage by the electric welding arc.

SPECIAL PRECAUTIONS:

Use in welding and cutting. Read and understand the manufacturer's instructions and the precautionary label on the product. For a detailed treatment, see ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, published by the American Welding Society.

Arcs and sparks can ignite combustible materials. Prevent fires. For more information, see NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot work, published by the National Fire Protection Association. Do not strike an arc on the cylinder. The defect produced by an arc burn could lead to cylinder rupture.

Use in Underwater Breathing. Suitability of this product for use in underwater breathing must be determined by or under supervision of someone experienced in the use of underwater breathing gas mixtures. This person must be familiar with how the product is used; the frequency, duration, and effects of use; the hazards and side effects of use, and the precautions to take to avoid or control them.

Mixtures

When you mix two or more gases or liquefied gases, 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. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS

HEALTH = 0
FLAMMABILITY = 0
INSTABILITY = 0
SPECIAL = None

HMIS RATINGS

HEALTH = 0
FLAMMABILITY = 0
PHYSICAL HAZARD = 3

CONNECTIONS:

Use the proper connections. Additional limited-standard connections may apply. Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with/her written consent is a violation of transportation regulations.

Disclaimer: Ellenbarrie Industrial Gases Limited asks users of this product to study this MSDS and become aware of 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 MSDS 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 Ellenbarrie Industrial Gases Limited. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Ellenbarrie Industrial Gases Limited, it is the user's obligation to determine the conditions of safe use of the product.

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