



MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards and EC Standards

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: COMPRESSED AIR
CHEMICAL NAME: Not Applicable
FORMULA: Not Applicable
SYNONYMS: Synthetic Air
MANUFACTURER: SPECTRA GASES, INC.
ADDRESS: 3434 Route 22 West
 Branchburg, NJ 08876, U.S.A.
PHONE: 908/252-9300
FAX: 908/252-0811
WEB SITE: www.spectra-gases.com
SPECTRA GASES EMERGENCY CONTACT: 800/932-0624 8:30am - 7:00pm (EST)
24 HOUR EMERGENCY CONTACT, CHEMTREC: 800/424-9300, 703-527-3887
PRODUCT USE: Various

SECTION 2. COMPOSITION and INFORMATION ON INGREDIENTS

(NOTE: Air may be either Compressed, Atmospheric air, or a synthetic mixture of 21% Oxygen and 79% Nitrogen)

COMPOSITION: Compressed Air, Atmospheric 100%, or Synthetic Air: Oxygen 21%, Nitrogen 79%

CAS NUMBER: Compressed Air, Atmospheric: 132259-10-0
 Synthetic Air Mixture: Oxygen: 7782-44-7; Nitrogen: 7727-37-9

EINECS NUMBER: Compressed Air, Atmospheric: Not Applicable
 Synthetic Air: Nitrogen: 231-783-9; Oxygen: 231-956-9

EXPOSURE LIMITS: (10,000 ppm = 1%)

OSHA PELs:

ACGIH TLVs:

NIOSH RELs:

There are no exposure limits for Compressed Air, Atmospheric. There are also no exposure limits for the components of Synthetic Air, Oxygen and Nitrogen. Nitrogen is a simple asphyxiant and Oxygen has no exposure limits.

SECTION 3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Compressed Air is a colorless, odorless, non-flammable gas. The main health hazards associated with releases of this gas are related to the high pressure. Although Air is generally considered non-flammable, Air will support combustion. A moderate cylinder rupture hazard exists when Air, which is under pressure, is subject to heat or flames.

ROUTES OF ENTRY, SYMPTOMS OF ACUTE EXPOSURE: The most significant route of over-exposure for air is by inhalation at elevated or reduced pressure. Acute overexposure to this gas may cause the following health effects:

EYE CONTACT: High-pressure gas may result in airborne objects.

INGESTION: Ingestion of this gas is not a likely route of industrial exposure.

INHALATION: Air is non-toxic and necessary to support life. Inhalation of Air in high pressure environments, such as underwater diving or hyperbolic chambers can result in symptoms similar to over-exposure to pure oxygen. These symptoms include tingling of the fingers and toes, abnormal sensations, along with impaired coordination and confusion. Decompression sickness, "bends", is possible following rapid decompression.

SKIN CONTACT: Not applicable.

HMIS RATINGS: HEALTH: = 0; FLAMMABILITY: = 0; REACTIVITY: = 0;

PPE: Level B (see Section 8, Exposure Controls/Personal protective Equipment)

SECTION 3. HAZARD IDENTIFICATION (Continued)

ROUTES OF ENTRY, SYMPTOMS OF CHRONIC EXPOSURE:

ROUTE OF ENTRY: Not Applicable

TARGET ORGANS: None.

SYMPTOMS: None.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None are anticipated.

CARCINOGENICITY: Compressed Air is not found on the FEDERAL OSHA Z LIST, NTP, CAL/OSHA, or IARC Carcinogenicity lists and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

SECTION 4. FIRST AID MEASURES

As the opportunity for injury from exposure to Air is limited to inhalation of Air in high pressure environments, such as underwater diving or hyperbolic chambers, the first-aid measures would be for over-pressure accidents, or rapid decompression-induced decompression sickness. In the event of such accidents, seek immediate and qualified medical attention.

EYE CONTACT: If mechanical injury occurs, cover eye with bandage and seek appropriate medical attention.

INGESTION: Ingestion is an unlikely route of exposure for this gas.

INHALATION: Remove victim(s) to fresh air, as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.

SKIN CONTACT: Not applicable.

NOTES TO PHYSICIANS: Administer oxygen, if necessary and treat symptoms.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT: Not Applicable

AUTOIGNITION: Not Applicable

FLAMMABLE RANGE: Not Applicable

NFPA RATINGS:

HEALTH: = 0 FLAMMABILITY: = 0

REACTIVITY: = 0 SPECIAL: None

EXTINGUISHING MEDIA: This is a non-flammable gas. Air will support combustion of flammable materials. Use extinguishing media appropriate for surrounding fire.

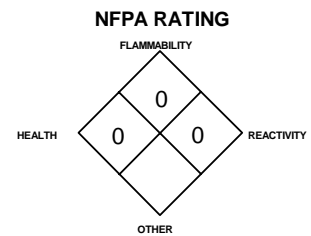
SPECIAL FIRE-FIGHTING PROCEDURES: Non-flammable gas. Use extinguishing media appropriate for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This gas does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire. Most cylinders have a pressure release device, which will vent contents if the cylinder is exposed to high temperatures.

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: Not sensitive.

EXPLOSION SENSITIVITY TO STATIC DISCHARGE: Not sensitive.

HAZARDOUS COMBUSTION PRODUCTS: None known.



**See Section 16 for
Definition of Ratings**

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: In the event of a leak of this product, operator should close the gas source if possible to do so safely. Evacuate area in the event of a significant release. If leak is in user's gas handling equipment or system, close cylinder valve, and safely vent high pressure before attempting repairs. If leak is from the cylinder, cylinder valve or the valve pressure relief device (PRD), contact your supplier.

SECTION 7. HANDLING AND STORAGE

STORAGE: Cylinders should be stored upright (with valve protection caps or plugs in place) and firmly secured to prevent falling or being knocked over. Cylinders should be stored in dry, well-ventilated areas. Protect from salt or other corrosive materials. Storage should be away from heavily traveled areas, walkways, elevators, platform edges or other objects or situations that could damage the cylinder wall. Do not store in a manner that will block emergency exits, fire extinguishers or other safety equipment.

SECTION 7. HANDLING AND STORAGE (Continued)

STORAGE (continued): Do not allow storage temperature to exceed 125°F (52°C). Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. Store empty cylinders away from full cylinders. **NOTE:** Use only DOT or ASME code cylinders designed for compressed gas storage. Cylinders must not be recharged except by or with the consent of owner.

HANDLING: Compressed Air intended for breathing must conform to CGA Standard G-7 (Compressed Air for Human Respiration) and Standard G-7.1, American National Standard Commodity Specification for Air. All other sources of compressed air must be viewed as unfit for human consumption until tested for conformance with these standards.

Cylinder valves should be inspected regularly for physical damage or corrosion (apparent by discoloration or rust). Close valve after each use and when empty.

Do not drag, roll, slide or drop cylinder. Use a suitable hand truck designed for cylinder movement. Never attempt to lift a cylinder by its cap. Secure cylinders at all times while in use. Use a pressure regulator to safely discharge product from cylinder. Use a check valve to prevent reverse flow into cylinder. Once cylinder has been connected to properly purged process, open cylinder valve slowly and carefully. If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier. Never insert an object (e.g., wrench, screwdriver, etc.) into valve cap openings; doing so may damage valve, causing a leak to occur. Use an adjustable strap-wrench to remove over-tight or rusted caps.

Do not heat cylinders by any means to increase the discharge rate of product from the cylinder. Never apply flame or localized heat directly to any part of the cylinder. Cylinders should not be artificially cooled as certain types of steel undergo property changes when cryogenically cooled, thus making the cylinder unstable.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Relieve pressure before attempting repairs.

SPECIAL PRECAUTIONS: Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, Inc. (telephone 703-412-0900) pamphlet CGA P-1, *Safe Handling of Compressed Gases in Containers*. Local regulations may require specific equipment for storage and use.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: None needed.

RESPIRATORY PROTECTION: None normally needed.

EYE PROTECTION: Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133 or by the European Standard EN166.

SKIN PROTECTION: Work (such as leather) gloves are recommended when handling cylinders of this gas. Wear gloves appropriate to the specific operation for which Compressed Air is used. **OTHER PROTECTIVE EQUIPMENT:** Use body protection appropriate for task. Safety shoes are recommended when handling cylinders.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR WEIGHT: 28.975

GAS DENSITY @ 21.1°C (70°F): 0.07493 lb./ft³ (1.2 kg/m³)

BOILING POINT @ 1 atm: -194.3°C (-317.74°F)

FREEZING/MELTING POINT @ 1 atm: -216.2°C (-357.2°F)

SPECIFIC GRAVITY @ 21.1°C (70°F): 1

SOLUBILITY IN WATER vol/vol at 0°C (32°F) and 1 atm: 0.0292

VAPOR PRESSURE @ -194°C (-381.2°F): 760 mmHg

SPECIFIC VOLUME: Not Applicable

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (Continued)

ODOR THRESHOLD: Compressed Air is odorless.

APPEARANCE, ODOR AND STATE: Colorless, odorless gas.

WARNING PROPERTIES FOR THIS GAS: There are no warning properties in the event of a release.

SECTION 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Cylinders should not be exposed to temperatures in excess of 125°F (52°C).

MATERIALS WITH WHICH GAS IS INCOMPATIBLE: Fuels may form explosive mixtures in air.

REACTIVITY:

A) HAZARDOUS DECOMPOSITION PRODUCTS: None.

B) HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: There are no toxicological data for Air.

CARCINOGENICITY: Not applicable.

IRRITANCY OF PRODUCT: Not applicable.

SENSITIZATION OF PRODUCT: Not applicable.

REPRODUCTIVE TOXICITY INFORMATION: Compressed Air presents no hazard of reproductive toxicity.

Mutagenicity: Compressed Air does not cause mutagenic effects in humans.

Embryotoxicity: Compressed Air does not cause embryotoxic effects in humans.

Teratogenicity: Compressed Air does not cause teratogenic effects in humans.

Reproductive Toxicity: Compressed Air does not cause adverse reproductive effects in humans.

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e., within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES (BEIs): Biological Exposure Indices (BEIs) are not applicable for Compressed Air.

SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: Air occurs naturally in the atmosphere.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on plants would be related to rapid release of the contents of the cylinder.

EFFECT OF CHEMICAL ON AQUATIC LIFE: The release of Compressed Air does not pose any adverse effect on an aquatic environment.

MOBILITY: Compressed Air does not present a hazard of mobility.

PERSISTENCE AND BIODEGRADABILITY: Not applicable.

POTENTIAL TO BIOACCUMULATE: Not applicable.

OZONE-DEPLETION POTENTIAL: Compressed Air is not a Class I or Class II ozone depleting chemical (40 CFR Part 82).

SECTION 13. DISPOSAL CONSIDERATIONS

UNUSED PRODUCT / EMPTY CONTAINER: Do not dispose of residual product. Return used product in cylinders to: Spectra Gases, Inc., 80 Industrial Drive, Alpha, NJ 08865 or Spectra Gases, Inc., 1261 Activity Drive, Vista, CA 92083.

DISPOSAL INFORMATION: Residual product may be safely released in a controlled manner.. This shall be done in accordance with U.S. Federal, State and local regulations, regulations of the provinces of Canada or EC member states.

SECTION 14. TRANSPORT INFORMATION
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U.S. SHIPPING INFORMATION:

U.S. DOT PROPER SHIPPING NAME: Air, compressed
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1002
U.S. DOT SHIPPING LABEL(S) REQUIRED: Non-Flammable Gas
PLACARD (When required): Not Applicable
SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position. Ensure cylinder valve is properly closed, valve outlet cap has been reinstalled, and valve protection cap is secured before shipping cylinder.
CAUTION: Compressed gas cylinders shall 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 the owner's written consent is a violation of Federal law (49 CFR 173.301).
NAERG (NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK) #: 122

CANADIAN SHIPPING INFORMATION:

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This gas is considered as dangerous goods; use the above U.S. DOT information for the preparation of Canadian Shipments.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA):

IATA DESIGNATION: This gas is considered as dangerous goods, per the International Air Transport Association.
PROPER SHIPPING NAME: Air, compressed
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1002
HAZARD LABEL(S) REQUIRED: Not Applicable
IATA ERG CODE: 2L

The following Packaging Information is applicable to this product:

PASSENGER AND CARGO AIRCRAFT				CARGO AIRCRAFT ONLY	
Limited Quantity		Packing Instruction	Max. Qty per Pkg	Packing Instruction	Max. Qty per Pkg
Packing Instruction	Max. Qty per Pkg				
//////	//////	200	75 kg	200	150 kg

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO):

IMO DESIGNATION: This gas is considered as dangerous goods, per the International Maritime Organization.
PROPER SHIPPING NAME: Air, compressed
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1002
HAZARD LABEL(S) REQUIRED: Not Applicable
IMDG CODE: Page 2103
STOWAGE CATEGORY: Category A
MARINE POLLUTANT: Compressed Air is not designated by the IMO to be a Marine Pollutant.

EUROPEAN SHIPPING INFORMATION:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This gas is considered by the Economic Commission for Europe to be dangerous goods. Additional information is as follows:

SUBSTANCE IDENTIFICATION NO.: 20
NAME OF SUBSTANCE: Air, compressed
HAZARD IDENTIFICATION NO.: 20
LABEL: 2
CLASS AND ITEM NUMBER: 2, 1°A

SECTION 15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:**EPA - ENVIRONMENTAL PROTECTION AGENCY:**

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1990
(40 CFR Parts 117 and 302)

Reportable Quantity (RQ): Not Applicable

SARA TITLE III: Superfund Amendment and Reauthorization Act

SECTIONS 302/304: Emergency Planning and Notification (40 CFR Part 355)

Extremely Hazardous Substances: Compressed Air is not listed.

Threshold Planning Quantity (TPQ): Not Applicable

Reportable Quantity (RQ): Not Applicable

SECTIONS 311/312: Hazardous Chemical Reporting (40 CFR Part 370)

IMMEDIATE HEALTH: No

PRESSURE: Yes

DELAYED HEALTH: No

REACTIVITY: No

FIRE: No

SECTION 313: Toxic Chemical Release Reporting (40 CFR 372)

Releases of Compressed Air do not require reporting under Section 313.

CLEAN AIR ACT:

SECTION 112 (r): Risk Management Programs for Chemical Accidental Release
(40 CFR Part 68)

Threshold Planning Quantity (TPQ): Not Applicable

TSCA: Toxic Substances Control Act

Compressed Air is listed on the TSCA Inventory.

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR Part 1910.119: Process Safety Management of Highly Hazardous Chemicals.

Threshold Planning Quantity (TPQ): Not Applicable

U.S. STATE REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65: Compressed Air is not a listed substance which the State of California requires warning under this statute.

The components of this gas are covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: No.

California - Permissible Exposure Limits for Chemical Contaminants: No.

Florida - Substance List: No.

Illinois - Toxic Substance List: No.

Kansas - Section 302/313 List: No.

Massachusetts - Substance List: No.

Michigan - Critical Materials Register: No.

Minnesota - List of Hazardous Substances: No.

Missouri - Employer Information/Toxic Substance List: No.

New Jersey - Right to Know Hazardous Substance List: No.

North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.

Pennsylvania - Hazardous Substance List: No.

Rhode Island - Hazardous Substance List: No.

Texas - Hazardous Substance List: No.

West Virginia - Hazardous Substance List: No.

Wisconsin - Toxic and Hazardous Substances: No.

CANADIAN FEDERAL REGULATIONS:

CANADIAN DSL INVENTORY STATUS: Compressed Air is listed on the Canadian DSL Inventory.

OTHER CANADIAN REGULATIONS: Compressed Air is categorized as a Controlled Product, Hazard Class A, as per the Controlled Product Regulations. Compressed Air is not on the CEPA Priorities Substances Lists.

EUROPEAN ECONOMIC COMMUNITY REGULATIONS:

EC LABELING AND CLASSIFICATION: Compressed Air does not meet the definition of any hazard class as defined by the European Community Council Directive 67/548/EEC.

EC CLASSIFICATION: Not applicable.

EC RISK PHRASES: Not applicable.

EC SAFETY PHRASES: Not applicable.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOL: Not applicable.

SECTION 16. OTHER INFORMATION

<p>Information contained in this Material Safety Data Sheet is provided to our customers so they may comply with 29 CFR 1910.1200, Hazard Communication Standard, the Canadian WHMIS Standard, and the requirements of the European Community Directives. The intent of this Material Safety Data Sheet is to provide end users of this product with the health and physical hazards associated with possible exposure to this product. All statements, technical data and recommendations are based on readily available texts and data that Spectra Gases, Inc., believes to be reliable and accurate. Spectra Gases, Inc., makes no warranties, guarantees or representations of any kind with respect to this product or this data. It is the responsibility of the user to obtain and use the most recent version of this MSDS.</p>
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SECTION 16. OTHER INFORMATION (Continued)

Further information about compressed gases can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.

P-1 "Safe Handling of Compressed Gases in Containers"

AV-1 "Safe Handling and Storage of Compressed Gases"

"Handbook of Compressed Gases"

For Definitions of Terms used in Spectra MSDSs, please see Spectra Gases, Inc. website: <http://www.spectragases.com> or contact your customer service representative.

PREPARED BY:

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858/565-0302

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