



Date Prepared: May 13, 2005

Date Reviewed: March 21, 2006

MATERIAL SAFETY DATA SHEET

Product Name: Compressed Gas, NOS (Oxygen, Nitrogen, Argon)

March 21, 2006

1. Chemical Product and Company Identification

Linweld, Inc
9911 Deer Park Road
Waverly, NE 68462

Telephone Number
Information: (402) 786-3330
Emergency: (402) 786-5277

Product Name: Compressed Gas, NOS (Oxygen, Nitrogen, Argon)
Chemical Name: Oxygen/Nitrogen/ Argon Mixture
Common Names: Compressed Gas, NOS (Oxygen, Nitrogen, Argon)

2. Hazard Ingredients and Identity Information

COMPONENT	% VOLUME	OSHA-PEL	ACGIH-TLV	CAS NUMBER
Argon	< 100%	Simple Asphyxiant	Simple Asphyxiant	007440-37-1
Nitrogen	< 100%	N/A	Simple Asphyxiant	007727-37-9
Oxygen	< 19.5%	N/A	N/A	007782-44-7

3. Physical and Chemical Characteristics

Boiling Point: Argon: -302.6° F Vapor Density: Argon: 1.38 pH: Argon: N/A
Nitrogen: -320.4° F Nitrogen: 0.967 Nitrogen: N/A
Oxygen: -297.3° F Oxygen: 1.105 Oxygen: N/A

Melting Point: Argon: -308.6° F Evaporation Rate: Argon - N/A Physical State: Argon - Gas
Nitrogen: -345.9° F Nitrogen - N/A Nitrogen - Gas
Oxygen: -361.8° F Oxygen- N/A Oxygen - Gas

Vapor Pressure: Argon - supercritical Solubility (H2O): Argon - Slightly
Nitrogen - supercritical Nitrogen - Slightly
Oxygen - supercritical Oxygen - Slightly

Appearance and Odor: Argon - Colorless, odorless gas.
Nitrogen - Colorless, odorless gas.
Oxygen - Colorless, odorless, gas.

How to Detect This Substance: Argon - N/A
Nitrogen - N/A
Oxygen - N/A

Other Physical and Chemical Data:

Argon - Liquid density at boiling point, 87.02 lb/ft³ (1394 kg/m³)
- Gas density at 70 deg. F 1 atm, 0.103 lb/ft³ (1.650 kg/m³)

Nitrogen - Liquid density at boiling point, 50.46 lb/ft³ (808.3 kg/m³)
- Gas density at 70 deg. F 1 atm, 0.0725 lb/ft³ (1.161 kg/m³)

Oxygen - Liquid density at boiling point, 71.23 lb/ft³ (114 kg/m³)
- Gas density at 70 deg. F 1 atm, 0.08279 lb/ft³ (1.326 kg/m³)

4. Fire and Explosion Hazard Data

Flammability Classification: Nonflammable
Ignition Temperature: N/A

Flash Point (F): N/A LEL (%): N/A
Method: N/A UEL (%): N/A

Extinguishing Media:
N/A

Fire Fighting Procedures:
If cylinders are involved in a fire, safely relocate or keep cool with water spray

Fire & Explosion Hazard:
N/A

5. Reactivity Data

Stability: Stable **Hazardous Polymerization:** Will not occur

Incompatibility:
None

Conditions to Avoid:
N/A

Hazardous Decomposition or Byproducts:
None

Other Reactivity Data:
N/A

6. Health Hazard Data

Route(s) of Entry:	Eye contact Yes	Skin Contact Yes	Skin Absorption No
	Inhalation Yes	Ingestion No	

Health Hazards:

Acute Product is a simple Asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing; diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death.

Chronic N/A

Carcinogenicity:	NTP No	IARC Monographs No	OSHA No
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Signs and Symptoms of Exposure and Emergency First Aid Procedures:

Eye Contact Contact with rapidly expanding gases (which are released under high pressure) may cause frostbite.

Skin Contact No component of this gas mixture presents a hazard of skin absorption.

Inhalation Product is a simple asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing; diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death.

Conscious victim should be assisted to an uncontaminated area and allowed to inhale fresh air. Unconscious victim should be moved to an uncontaminated area and given assisted respiration.

Ingestion N/A

Medical Conditions Aggravated by Exposure:

Persons of ill health that may be aggravated by exposure to argon should not be allowed to work with this product.

7. Precautions for Safe Handling and Use

Actions if Released or Spilled:

Evacuate all personnel from affected area. Use appropriate personal protective equipment.

Waste Disposal Method:

Do not attempt to dispose of waste or unused quantities. Return in properly labeled shipping container, with any valve outlet plugs or caps secured and valve protection caps in place.

Handling and Storage Precautions:

Use only in well-ventilated areas. Valve protection caps must remain in place unless cylinder is secured with valve outlet piped to point of use. 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 piping or systems. Do not heat cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder. Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavy traffic areas and emergency exits. Do

7. Precautions for Safe Handling and Use (Continued)

not allow temperature of cylinder storage area to exceed 125° F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated.

Other Precautions:

Argon and Nitrogen are non-corrosive and may be used with common structural materials.

Compressed gas cylinders should only be refilled by qualified personnel. Shipment of compressed gas cylinders that have been filled without the consent of the cylinder owner is a violation of federal law (49 CFR).

Always secure cylinders in an upright position during transportation. Never transport cylinders in enclosed space such as a vehicle truck or van.

For additional recommendations, see CGA Pamphlets P-1, P-14, P-9 and SB-2.

Transportation Information:

Shipping Name Compressed Gas, N.O.S (Oxygen, Nitrogen, Argon)
Hazard Class 2.2
ID Number UN1956
Shipping Label - 1 Nonflammable Gas

NFPA Rating:

Health: 0 **Flammability:** 0 **Reactivity:** 0

8. Control Measures**Eye Protection:**

Safety glasses or goggles as appropriate

Protective Gloves:

Protective gloves of any material.

Respiratory Protection:

Maintain the Oxygen level above 19.5% in the workplace. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent U.S. State standards and Canadian CSA Standard Z94.4-93. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

Ventilation:

Local exhaust to prevent argon accumulation sufficient to reduce oxygen concentration below 19.5%.

Other Protective Clothing or Equipment:

Safety shoes as appropriate.

9. Regulatory Information**SARA TITLE III NOTIFICATIONS AND INFORMATION****SARA Title III – Section 313 Supplier Notification:**

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372.

SARA Title III – Hazard Classes:

Sudden Release of Pressure Hazard

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