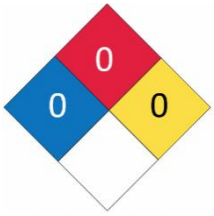
Label 2.2: Non-flammable, nontoxic gas



NFPA Rating

SECTION 1: PRODUCT AND COMPANY IDENTIFATION

Trade Name	: Argon, Compressed Gas
Chemical Name	: Argon
Chemical Family	: Inert Gas
Formula	: Ar
CAS-No.	: 7440-37-1
Other means of identification	: Shielding gas, Argon 40, Extendapak Argon
Use of the substance/mixture	: Industrial use; Use as directed.
Company Indentation	: Barrak Industrial Gases Factory.
Emergency telephone number	: +966 13 5826507

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	Product identifier	%
Argon	(CAS-No.) 7440-37-1	97- 100

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview	: Caution! High-pressure gas. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus and protective clothing may be required by rescue workers.
Effects of a Single (Acute) Overexposure	
-Inhalation	: Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Lack of oxygen can kill.
Skin Contact	: No harm expected.
Swallowing	: An unlikely route of exposure. This product is a gas at normal temperature and pressure
Eye Contact	: No harm expected.
Effects of Repeated (Chronic) Overexposure	: No harm expected
Other Effects of Overexposure	: Argon is an asphyxiant. Lack of oxygen can kill.
Medical Conditions Aggravated by Overexposure	: The toxicology and the physical and chemical properties of argon suggest that the overexposure is unlikely to aggravate existing medical conditions.
Potential Environmental Effects	: None known.

SECTION 4: FIRST AID MEASURES

Inhalation	: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician
Skin contact	: Flush with water. If discomfort persists, seek medical attention.
Swallowing	: An unlikely route of exposure. This product is a gas at normal temperature and pressure.
Eye Contact	: Flush eyes thoroughly with warm water. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. If discomfort persists, seek medical attention.
Notes to Physician	: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Victim may not be aware of asphyxiation.

SECTION 5: FIRE FIGHTING MEASURES

Flammable class	: Non-flammable.
Extinguishing media **- Suitable extinguishing media**	: All known extinguishants can be used.
Hazardous combustion products	: None.
Specific physical and chemical hazards	: 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 52°C (125°F). Argon cylinders are equipped with a pressure relief device (Exceptions may exist).
Specific methods	: If possible, stop flow of product. 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. Self-contained breathing apparatus may be required by rescue workers.
Protective equipment and precautions for firefighters	: Firefighters should wear personal protective equipment and fire-fighting turnout gear as appropriate for surrounding fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	: Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.
Environmental precautions	: Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Cleanup methods	: Ventilate area.

SECTION 7: HANDLING AND STORAGE

Precautions to be taken in handling	: 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 to BGas. Close valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the cylinder. High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls **Local exhaust**	: Use a local exhaust system, if necessary, to prevent oxygen deficiency and keep hazardous fumes and gases below applicable exposure limits in the worker's breathing zone.
Mechanical (General)	: General exhaust ventilation may be acceptable if it can maintain an adequate supply of air and keep hazardous fumes and gases below applicable TLVs in the worker's breathing zone.
Special	: None.
Other	: None.
Personal protective equipment **-Skin Protection**	: Wear work gloves when handling cylinders; welding gloves for welding. Metatarsal shoes for cylinder handling.
Eye/Face Protection	: Wear safety glasses when handling cylinders.
Respiratory Protection	: Use air-purifying or air-supplied respirators, as appropriate, where local or general exhaust ventilation is inadequate. Adequate ventilation must keep worker exposure below applicable exposure limits for fumes, gases, and other by-products of welding with argon.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	**Colorless gas.**
Odor	Odorless.
Odor Threshold	Not applicable.
Physical State	Gas at normal temperature and pressure.
pH	Not applicable.
Melting Point at 1 atm	-189.35°C (-308.83°F)
Boiling Point at 1 atm	-185.87°C (-302.57°F)
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 at 20°C (68°F)	Not applicable.
Vapor Density at 21.1°C (70°F) and 1 atm	0.103 lb/ft3 (1.654 kg/m3)
Specific Gravity (H2O = 1) at boiling point	1.40
Specific Gravity (Air = 1) at 21.1°C (70°F) and 1 atm	1.38
Solubility In Water, vol/vol at 0°C (32°F) and 1 atm	0.056
Partition Coefficient: n-octanol/water	Not available.
Autoignition Temperature	Not applicable.
Decomposition Temperature	None.
Percent Volatiles By Volume	100
Molecular Weight	39.95
Molecular Formula	Ar

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	: Stable
Conditions to Avoid	: None known.
Incompatible Materials	: None known. Argon is chemically inert.
Hazardous Decomposition Products	: Ozone and nitrogen oxides may be formed by radiation from arc. Other decomposition products of normal operation originate from volatilization, reaction, or oxidation of the material being worked.
Possible Of Hazardous Reactions	: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Dose Effect	: Argon is a simple asphyxiant. The welding process may generate hazardous fumes and gases.
Study Results	: No known effects.

SECTION 12: ECOLOGICAL INFORMATION

Other Adverse Effects	: Argon does not contain any Class I or Class II ozone-depleting chemicals.
Ecological Effects Information	: No known ecological damage caused by this product.

SECTION 13: DISPOSAL CONSIDERATION

Waste Disposal Method	: Do not attempt to dispose of residual or unused quantities. Return cylinder to BGas For emergency disposal, secure cylinder in a well-ventilated area or outdoors; then slowly discharge gas to the atmosphere.

SECTION 14: TRANSPORT INFORMATION

Transport Information	: Avoid transport on vehicles where the load space is not separated from the driver's compartment. : Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. : Before transporting product containers: - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted. - Ensure there is adequate ventilation. - Compliance with applicable regulations.

SECTION 15: OTHER INFORMATION

Asphyxiant in high concentrations.

Keep container in a well-ventilated place.

Do not breathe the gas

Ensure all national/local regulations are observed.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Hazard Rating Systems

NFPA Ratings:	**HMIS Ratings:**
Health =0	Health =0
Flammability =0	Flammability =0
Instability =0	Physical Hazard =3
Special = SA (CGA recommends this to designate Simple Asphyxiant).	

Standard valve connections

Threaded	CGA-580
Pin-Indexed Yoke	CGA-960 (Medical Use)
Use the proper CGA connections **Do Not Use Adapters.**	

End of Documents