1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	**Argon, Enriched Argon**
Chemical Formula	Ar
Molecular Weight	39.95
CAS No.	7440-37-1
EC No.	209-170-2
UN No.	UN1006
Recommended Use	Compressed Gas
Synonyms	Argon, Enriched Argon
Supplier Address*	ISOFLEX USA P.O. Box 29475 San Francisco, CA 94129 United States
Telephone	+1 415-440-4433
Fax	+1 415-563-4433
Emergency Phone Number (INFOTRAC)	Infotrac/ +1 800-535-5053
Email	iusa@isoflex.com
Website	www.isoflex.com
Preparation Information	ISOFLEX USA Product Safety +1 415-440-4433

2. HAZARDS IDENTIFICATION

Emergency Overview

Simple asphyxiant

This product does not contain oxygen and may cause asphyxia if released in a confined area.

Maintain oxygen levels above 19.5%.

Nonflammable

OSHA Regulatory Status: NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) Identification Number: CF2300000

Potential Health Effects

Principle Routes of Exposure: Inhalation, Eye Contact, Skin Contact

Acute Toxicity

Inhalation	Non-toxic simple asphyxiant. Effects of oxygen deficiency *(<19.5%)* resulting from simple asphyxiants may include dizziness, drowsiness, rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgment, depression of all sensations, emotional instability. As asphyxiation progresses, nausea, vomiting, prostration and loss of consciousness may result, eventually leading to convulsions, coma and death. Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.
Eyes	None known
Skin	None known
Ingestion	None known
Synergistic Effects	None known

NFPA Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 0 **Flammability = 0** **Reactivity = 0** **Special Notice = Simple Asphyxiant**

HMIS Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 0 **Flammability = 0** **Physical Hazard = 0**

HEALTH HAZARD	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2009, *CGA Recommended Hazard Ratings for Compressed Gases, 3rd Edition*.

---

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:	Argon
CAS No.:	7440-37-1
Volume %:	>99%
Chemical Formula:	Ar

4. FIRST AID MEASURES

Eye Contact	Never introduce ointment or oil into the eyes without medical advice. If pain is present, refer the victim to an ophthalmologist for treatment.
Skin Contact	None anticipated. Get medical attention if symptoms occur.
Ingestion	None under normal use. Get medical attention if symptoms occur. Ingestion is unlikely, as product is a gas at room temperature.
Inhalation	PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

5. FIREFIGHTING MEASURES

Flammable Properties	Not flammable
Suitable Extinguishing Media	None required. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None
Specific Hazards Arising from the Chemical	None
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH-approved or equivalent, full-protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Evacuate all personnel from affected area. Use appropriate equipment. Ensure adequate ventilation. Monitor oxygen level.
Environmental Precautions	Prevent spreading of vapors through sewers, ventilation systems and confined areas.
Methods for Containment	Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number listed in section 1.
Methods for Cleaning Up	Return cylinder to ISOFLEX USA.

7. HANDLING AND STORAGE

Handling	Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve protection outlet piped to use point. Protect cylinders from physical damage: do not drag, slide or roll. When moving cylinders, even for a short distance, use a cart designed to transport cylinders. Use equipment rated for cylinder pressure. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.

Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use a pressure-reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder.

Use an adjustable strap wrench to remove over-tight or rusted caps. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier.

Never put cylinders into trunks of cars or in unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Keep out of the reach of children.

Storage

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction, away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125 ºF (52 ºC). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Full and empty cylinders should be segregated. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, pamphlet CGA-P1, *Safe Handling of Compressed Gases in Containers.*

---

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Engineering Measures

Local exhaust to prevent accumulation of high concentrations that would reduce the oxygen level in the air to less than 19.5%.

Personal Protective Equipment

Eye/Face Protection

Wear protective eyewear (safety glasses) appropriate for the job.

Skin and Body Protection

Protective gloves and safety shoes are recommended when handling cylinders.

Respiratory Protection

General Use

No special protective equipment required.

Emergency Use

Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use in oxygen-deficient atmospheres (<19.5%).

Hygiene Measures

Wear suitable gloves and eye/face protection.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Gas
Color	Colorless
Odor	Odorless

Safety Data

pH	No data available
Freezing Point	-308.9 ºF / -189.4 ºC
Flash Point	No data available

Boiling Point	-302.6 ºF / -185.9 ºC
Vapor Pressure	No data available
Vapor Density (Air=1)	1.38
Evaporation Point	No data available
Specific Gravity	No data available
Solubility in Water	Slight
Odor Threshold	No data available

Flammability Limits in Air

Upper	Not applicable
Lower	Not applicable

10. STABILITY AND REACTIVITY

Stability	Stable
Incompatible Materials	None known
Conditions to Avoid	None known
Hazardous Polymerization	Does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral	No information available
LD50 Dermal	No information available
LC50 Inhalation	No information available
Repeated Dose Toxicity	No information available

Chronic Toxicity

Chronic Toxicity	None known
Carcinogenicity	Contains no ingredient listed as a carcinogen.
Irritation	No information available
Sensitization	No information available
Reproductive Toxicity	No information available
Teratogenicity	No information available
Developmental Toxicity	Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.
Synergistic Materials	None known
Target Organ Effects	None known

12. ECOLOGICAL INFORMATION

The environmental impact of this product has not been fully investigated. No negative impacts known.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE, to ISOFLEX USA for proper disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	Argon, compressed
Hazard Class	2.2
Subsidiary Class	None
UN No.	UN 1006
Description	UN 1006, Argon, compressed, 2.2
Shipping Label	Nonflammable Gas

IATA

UN No.	UN 1006
Proper Shipping Name	Argon, compressed
Hazard Class	2.2
Description	UN 1006, Argon, compressed, 2.2
Maximum Quantity for Passenger	200
Maximum Quantity for Cargo Only	200

TDG

Proper Shipping Name	Argon, compressed
Hazard Class	2.2
UN No.	UN 1006
Description	UN 1006, Argon, compressed, 2.2

MEX

Proper Shipping Name	Argon, compressed
Hazard Class	2.2
UN No.	UN 1006
Description	UN 1006, Argon, compressed, 2.2

IMDG/IMO

Proper Shipping Name	Argon, compressed
Hazard Class	2.2
UN No.	UN 1006
EmS No.	F-C, S-V
Description	UN 1006, Argon, compressed, 2.2

ADR

Proper Shipping Name	Argon, compressed
Hazard Class	2.2
UN No.	UN 1006
Classification Code	1A
Tunnel Restriction	Passage forbidden through tunnels of category E
Description	UN 1006, Argon, compressed, 2.2

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies
EINECS / ELINCS	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and *Title 40 of the Code of Federal Regulations, Part 372.*

SARA 311/312

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (*40 CFR 122.21* and *CFR 122.42).*

Risk and Process Safety Management Programs

This material, as supplied, does not contain any regulated substances with specified thresholds under *40 CFR Part 68*. This product does not contain any substances regulated as Highly Hazardous Chemicals pursuant to the *29 CFR Part 1910.110.*

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see *40 CFR 61)*

This product does not contain any substances regulated as hazardous air pollutants (HAPs) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA/SARA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (*40 CFR 302*) or the Superfund Amendments and Reauthorization Act (SARA) (*40 CFR 355*). There may be specific reporting requirements at the local, regional or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65:	This product does not contain any Proposition 65 chemicals.
Connecticut Carcinogen Reporting:	This material is not listed.
Connecticut Hazardous Material Survey:	This material is not listed.
Florida substances:	This material is not listed.
Illinois Chemical Safety Act:	This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act:	This material is not listed.
Louisiana Reporting:	This material is not listed.
Louisiana Spill:	This material is not listed.
Massachusetts Spill:	This material is not listed.
Massachusetts Substances:	This material is listed.
Michigan Critical Material:	This material is not listed.
Minnesota Hazardous Substances:	This material is not listed.
New Jersey Hazardous Substances:	This material is listed.
New Jersey Spill:	This material is not listed.
New Jersey Toxic Catastrophe Prevention Act:	This material is not listed.
New York Acutely Hazardous Substances:	This material is not listed.
New York Toxic Chemical Release Reporting:	This material is not listed.
Pennsylvania RTK Hazardous Substances:	This material is listed.
Rhode Island Hazardous Substances:	This material is not listed.

International Regulations

Canada:	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

---

16. OTHER INFORMATION

Prepared By	ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States
Issuing Date	September 15, 2014
Revision Date	August 01, 2021
Revision Number	3
Revision Note	Required review and update

ISOFLEX USA's Commonly Used Abbreviations and Acronyms*

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
ALARA	As Low As Is Reasonably Achievable
AMU	Atomic Mass Unit
ANSI	American National Standards Institute
BLS	Basic Life Support
CAM	Continuous Air Monitor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CLP	Classification, Labelling and Packaging (European Union)
CPR	Controlled Products Regulations (Canada)
CWA	Clean Water Act (USA)
DAC	Derived Air Concentration (USA)
DOE	United States Department of Energy (USA)
DOT	United States Department of Transportation (USA)
DSL	Domestic Substances List (Canada)
EC50	Half Maximal Effective Concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
EHS	Environmentally Hazardous Substance
ELINCS	European List of Notified Chemical Substances
EMS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency (USA)
EPCRA	Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System (USA)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Containers
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life or Health
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
LDLO	Lethal Dose Low
LOEC	Lowest-Observed-Effective Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSHA	Mine Safety and Health Administration (USA)
NCRP	National Council on Radiation Protection & Measurements (USA)
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association (USA)
NIOSH	National Institute for Occupational Safety and Health (USA)
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
NRC	Nuclear Regulatory Commission (USA)
NTP	National Toxicology Program (USA)
OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent Bioaccumulative and Toxic Chemical
PEL	Permissible Exposure Limit
PIH	Poisonous by Inhalation Hazard
RCRA	Resource Conservation and Recovery Act (USA)
RCT	Radiation Control Technician
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
TDG	Transportation of Dangerous Goods (Canada)
TIH	Toxic by Inhalation Hazard

TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations (Number)
VOC	Volatile Organic Compound
vPvB	Very Persistent Very Bioaccumulative Chemical
WGK	Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS	Workplace Hazardous Materials Information System

*One or more of the above-listed items may not appear in this document.

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between ISOFLEX USA (or any of its affiliates and subsidiaries) and the purchaser.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. ISOFLEX shall not be held liable for any damage resulting from handling or from contact with the above product.