

# Material Safety Data Sheet

## Argon

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### SECTION 01

## Chemical Product and Company Identification

<b>Product Name</b>	:	Argon
<b>Other means of ID</b>	:	Argon-40; Argon, isotope of mass 40; 40Ar; ARGON; Argon, Welding Quality; ARGON, COMPRESSED
<b>Supplier</b>	:	EsPRI Gas 500 Northridge Road Suite 120 Atlanta, GA 30350
<b>Product Use</b>	:	Synthetic/Analytical chemistry.
<b>Synonym</b>	:	Argon-40; Argon, isotope of mass 40; 40Ar; ARGON; Argon, Welding Quality; ARGON, COMPRESSED
<b>MSDS #</b>	:	: 001004
<b>In Case of Emergency</b>	:	1-800-720-1563

### SECTION 02

## Hazards Identification

<b>OSHA/HCS Status</b>	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Class of the substance or mixture</b>	:	GASES UNDER PRESSURE - Compressed gas SIMPLE ASPHYXIANTS
<b>GHS Label Elements</b>	:	
<b>Hazard Pictograms</b>	:	

## SECTION 02

## Hazards Identification (Cont.)

<b>Signal Word</b>	:	Warning
<b>Hazard Statements</b>	:	Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.
<b><u>Precautionary Statements</u></b>		
<b>General</b>	:	Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction.
<b>Prevention</b>	:	Not applicable.
<b>Response</b>	:	Not applicable.
<b>Storage</b>	:	Protect from sunlight. Store in a well-ventilated place.
<b>Supp. Label Elements</b>	:	Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.
<b>Hazards not Otherwise Classified</b>	:	In addition to any other important health or physical hazards, this product may displace

## SECTION 03

## Composition, Information on Ingredients

<b>Substance/Mixture</b>	:	Substance
<b>Chemical Name</b>	:	Argon
<b>Other Means of ID</b>	:	Argon-40; Argon, isotope of mass 40; 40Ar; ARGON; Argon, Welding Quality; ARGON, COMPRESSED
<b>Product Code</b>	:	001004
<b><u>CAS Number/Other Identifiers</u></b>		
<b>CAS Number</b>	:	7440-37-1
<b>Ingredient Name, % CAS Number</b>	:	Argon, %, 7440-37-1

**SECTION 03**

## Composition, Information on Ingredients (Cont.)

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 04**

## First Aid Measures

### Description of Necessary First Aid Measures

- Eye Contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin Contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

## SECTION 04

## First Aid Measures (Cont.)

Most Important Symptoms/Effects, Acute and DelayedPotential acute health effects

<b>Eye contact</b>	:	Contact with rapidly expanding gas may cause burns or frostbite.
<b>Inhalation</b>	:	No known significant effects or critical hazards. Acts as a simple asphyxiant.
<b>Skin Contact</b>	:	Contact with rapidly expanding gas may cause burns or frostbite.
<b>Frostbite</b>	:	Try to warm up the frozen tissues and seek medical attention.
<b>Ingestion</b>	:	As this product is a gas, refer to the inhalation section,

Over-Exposure Signs/Symptoms

<b>Eye contact</b>	:	No specific data.
<b>Inhalation</b>	:	No specific data.
<b>Skin Contact</b>	:	No specific data.
<b>Ingestion</b>	:	No specific data.

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary

<b>Notes to Physician</b>	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific Treatments</b>	:	No specific treatment.
<b>Protection of First-Aiders</b>	:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 05

## Fire-Fighting Measures

### Extinguishing Media

**Suitable Extinguishing Media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable Extinguishing Media** : None known

**Specific Hazards Arising from the Chemical** : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode

**Hazardous Thermal Decomposition Products** : No specific data.

**Special Protective Actions for Fire-Fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special Protective Equipment for Fire-Fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 06

## Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**For Non-Emergency Personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## SECTION 06

## Accidental Release Measures (Cont.)

**For Emergency Responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For nonemergency personnel.”

**Environmental Precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and Materials for Containment and Cleaning Up

**Small Spill** : Immediately contact emergency personnel. Stop leak if without risk.

**Large Spill** : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## SECTION 07

## Handling and Storage

**Protective Measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous

**Advice on General Occupational Hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**SECTION 7**

## Handling and Storage (Cont.)

**Conditions for Safe Storage, including any Incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

**SECTION 8**

## Exposure Controls/Personal Protection

**Control Parameters****Occupational Exposure Limits**

**Ingredient Name, Exposure Limits** : Argon, ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant].

**Appropriate Engineering Controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental Exposure Controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual Protection Measures**

**Hygiene Measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**SECTION 8****Exposure Controls/Personal Protection (Cont.)**

- Eye/face Protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.
- Hand Protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body Protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other Skin Protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory Protection** : The gas can cause asphyxiation without warning by replacing the oxygen in the air. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



## SECTION 9

## Physical and Chemical Properties

Appearance

<b>Physical State</b>	:	Gas.
<b>Color</b>	:	Colorless.
<b>Odor</b>	:	Odorless.
<b>Odor Threshold</b>	:	Not available.
<b>pH</b>	:	Not available.
<b>Melting Point</b>	:	-189.2°C (-308.6°F)
<b>Boiling Point</b>	:	-185.9°C (-302.6°F)
<b>Critical Temperature</b>	:	-122.4°C (-188.3°F)
<b>Flash Point</b>	:	[Product does not sustain combustion.]
<b>Evaporation Rate</b>	:	Not available.
<b>Flammability (solid, gas)</b>	:	Not available.
<b>Lower and Upper Explosive (Flammable) Limits</b>	:	Not available.
<b>Vapor Pressure</b>	:	Not available.
<b>Vapor Density</b>	:	1.66 (Air = 1)
<b>Specific Volume (ft<sup>3</sup>/lb)</b>	:	9.7087
<b>Gas Density (lb/ft<sup>3</sup>)</b>	:	0.103
<b>Relative Density</b>	:	Not applicable.
<b>Solubility</b>	:	Not available.
<b>Solubility in Water</b>	:	Not available.
<b>Partition Coefficient: Noctanol/Water</b>	:	0.74
<b>Auto-ignition Temperature</b>	:	Not available.
<b>Decomposition Temperature</b>	:	Not available.
<b>Viscosity</b>	:	Not available.
<b>Flow Time (ISO 2431)</b>	:	Not available.
<b>Molecular Weight</b>	:	39.95 g/mole

## SECTION 10

## Stability and Reactivity

<b>Reactivity</b>	:	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical Stability</b>	:	The product is stable.
<b>Possibility of Hazardous Reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to Avoid</b>	:	Do not allow gas to accumulate in low or confined areas.
<b>Incompatible Materials</b>	:	No specific data.
<b>Hazardous Decomposition Products</b>	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Hazardous Polymerization</b>	:	Under normal conditions of storage and use, hazardous polymerization will not occur.

## SECTION 11

## Toxicological Information

### Information on Toxicological Effects

<b>Acute Toxicity</b>	:	Not available.
<b>Irritation/Corrosion</b>	:	Not available.
<b>Sensitization</b>	:	Not available.
<b>Mutagenicity</b>	:	Not available.
<b>Carcinogenicity</b>	:	Not available.
<b>Reproductive Toxicity</b>	:	Not available.
<b>Teratogenicity</b>	:	Not available.
<b>Specific Target Organ Toxicity (single exposure)</b>	:	Not available.
<b>Specific Target Organ Toxicity (repeated exposure)</b>	:	Not available.
<b>Aspiration Hazard</b>	:	Not available.

## SECTION 11

## Toxicological Information (Cont.)

**Information on the Likely Routes of Exposure** : Not available..

**Potential Acute Health Effects**

**Eye Contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation** : No known significant effects or critical hazards. Acts as a simple asphyxiant

**Skin Contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure****Short Term Exposure**

**Potential Immediate Effects** : Not available.

**Potential Delayed Effects** : Not available.

**Long Term Exposure**

**Potential Immediate Effects** : Not available.

**Potential Delayed Effects** : Not available.

**Potential Chronic Health Affects** : Not available.

**Acute Toxicity Estimates** : Not available.

## SECTION 12

## Ecological Information

**Toxicity** : Not Available.

**Persistence and Degradability** : Not Available.

**Bioaccumulative Potential**

**Product/Ingredient Name, LogP<sub>ow</sub>, BCF, Potential**  
Argon, 0.74, -, Low

**Mobility in Soil**

**Soil/Water Partition Coefficient (K<sub>oc</sub>)** : Not Available.

**Other adverse effects** : No known significant effects or critical hazards.






**SECTION 13**

## Disposal Considerations

**Disposal Methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

**SECTION 14**

## Transport Information

	<b>DOT</b>	<b>TDG</b>	<b>Mexico</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	UN1006	UN1006	UN1006	UN1006	UN1006
<b>UN proper shipping name</b>	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED
<b>Transport hazard class(es)</b>	2.2 	2.2 	2.2 	2.2 	2.2 
<b>Packing group</b>	-	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.	No.

“REFER TO CFR 49 (OR AUTHORITY HAVING JURISDICTION) TO DETERMINE THE INFORMATION REQUIRED FOR SHIPMENT OF THE PRODUCT.”

## SECTION 14

## Transport Information (Cont.)

Additional information

<b>DOT Classification</b>	:	Limited quantity, No
<b>TDG Classification</b>	:	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).  Explosive Limit and Limited Quantity Index 0.125 Passenger Carrying Road or Rail Index 75 Special provisions 42
<b>TDG Classification</b>	:	Quantity limitation No
<b>Special Precautions for User</b>	:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
<b>Transport in Bulk According to IMO Instruments</b>	:	Quantity limitation No

## SECTION 15

## Regulatory Information

<b>U.S. Federal Regulations</b>	:	TSCA 8(a) CDR Exempt/Partial exemption: This material is listed or exempted.
<b>Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)</b>	:	Not listed.
<b>Clean Air Act Section 602 Class I Substances</b>	:	Not listed.
<b>Clean Air Act Section 602 Class II Substances</b>	:	Not listed.
<b>DEA List I Chemicals (Precursor Chemicals)</b>	:	Not listed.
<b>DEA List II Chemicals (Essential Chemicals)</b>	:	Not listed.
<b><u>SARA 302/304</u></b>		
<b>Composition/information on Ingredients</b>	:	No products were found.

## SECTION 15

## Regulatory Information

SARA 311/312

**Classification** : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State Regulations

**Massachusetts** : This material is listed.

**New York** : Not listed.

**New Jersey** : Not listed.

**Pennsylvania** : Not listed.

International Regulations

**Chemical Weapon Convention List Schedules I, II & III Chemicals** : Not listed.

**Montreal Protocol** : Not listed.

**Stockholm Convention on Persistent Organic Pollutants** : Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)** : Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals** : Not listed.

Inventory List

**Australia** : This material is listed or exempted.

**Canada** : This material is listed or exempted.

**China** : This material is listed or exempted.

**Europe** : This material is listed or exempted.

**Japan** : Japan inventory (ENCS): Not determined.  
Japan inventory (ISHL): Not determined.

**New Zealand** : This material is listed or exempted.

**Philippines** : This material is listed or exempted.

**Taiwan** : This material is listed or exempted.

**Thailand** : Not determined.

**Turkey** : Not determined.

**United States** : This material is listed or exempted.

**Viet Nam** : Not listed.

**SECTION 16**

## Other Information

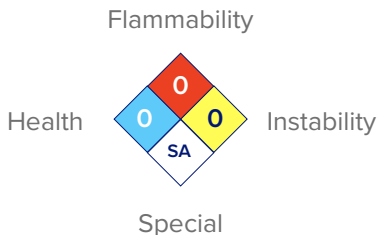
### Hazardous Material Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc. The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Health	/	<b>1</b>
Flammability		<b>0</b>
Physical Hazards		<b>0</b>

### Hazardous Material Information System (U.S.A.)

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## Notice to Reader

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