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		Date: 11/06/2020
<b>MSDS V1.1</b>	<b>Argon</b>	<b>DG007G</b>



Label 2.2: Non flammable, non toxic gas.



NFPA RATING

### 1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

<b>Trade Name</b>	: Argon, Compressed Gas
<b>Chemical Formula</b>	: Ar
<b>Chemical Family</b>	: Inert Gas
<b>MSDS No</b>	: DG007G
<b>Company Identification</b>	: Aldakheel Industrial Gases Plant ( <i>DIGAS</i> )
<b>Emergency Phone Number</b>	: 04-8455-101

### 2 COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	CONCENTRATION
Argon	7440-37-1	>99%*

\*The symbol > means "greater than"

### 3 HAZARDS IDENTIFICATION

<b>Emergency Overview</b>	: <b>Caution!</b> 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.
<b>Effects of a Single (Acute) Overexposure</b>	
<b>-Inhalation</b>	: 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.
<b>Skin Contact</b>	: No harm expected.
<b>Swallowing</b>	: An unlikely route of exposure. This product is a gas at normal temperature and pressure.
<b>Eye Contact</b>	: No harm expected.
<b>Effects of Repeated (Chronic) Overexposure</b>	: No harm expected.
<b>Other Effects of Overexposure</b>	: Argon is an asphyxiant. Lack of oxygen can kill.
<b>Medical Conditions Aggravated by Overexposure</b>	: The toxicology and the physical and chemical properties of argon suggest that the overexposure is unlikely to aggravate existing medical conditions.
<b>Potential Environmental Effects</b>	: None known.

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#### 4 FIRST AID MEASURES

<b>Inhalation</b>	: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.
<b>Skin contact</b>	: Flush with water. If discomfort persists, seek medical attention.
<b>Swallowing</b>	: An unlikely route of exposure. This product is a gas at normal temperature and pressure.
<b>Eye Contact</b>	: 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.
<b>Notes to Physician</b>	: 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.

#### 5 FIRE-FIGHTING MEASURES

<b>Flammable class</b>	: Non flammable.
<b>Extinguishing media</b> <b>- Suitable extinguishing media</b>	: All known extinguishants can be used.
<b>Hazardous combustion products</b>	: None.
<b>Specific physical and chemical hazards</b>	: 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).
<b>Specific methods</b>	: 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.
<b>Protective equipment and precautions for firefighters</b>	: Firefighters should wear personal protective equipment and fire-fighting turnout gear as appropriate for surrounding fire.

#### 6 ACCIDENTAL RELEASE MEASURES

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

#### 7 HANDLING AND STORAGE

<b>Precautions to be taken in handling</b>	: 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 DIGAS. 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, venting the cylinder contents.
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**7 HANDLING AND STORAGE (Continued)**

**Precautions to be taken in storage** : Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 52°C (125°F). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering controls** : 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.

**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.

**9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	: Colorless gas.
<b>Odor</b>	: Odorless.
<b>Odor Threshold</b>	: Not applicable.
<b>Physical State</b>	: Gas at normal temperature and pressure.
<b>pH</b>	: Not applicable.
<b>Melting Point</b> at 1 atm	: -189.35°C (-308.83°F)
<b>Boiling Point</b> at 1 atm	: -185.87°C (-302.57°F)
<b>Flash Point</b> (test method)	: Not applicable.
<b>Evaporation Rate</b> (Butyl Acetate = 1)	: Not applicable.
<b>Flammability</b>	: Nonflammable.
<b>Flammable Limits In Air</b> , % by volume	: <b>Lower</b> Not applicable                      Upper                      Not applicable
<b>Vapor Pressure</b> at 20°C (68°F)	: Not applicable.
<b>Vapor Density</b> at 21.1°C (70°F) and 1 atm	: 0.103 lb/ft <sup>3</sup> (1.654 kg/m <sup>3</sup> )
<b>Specific Gravity</b> (H <sub>2</sub> O = 1) at boiling point	: 1.40
<b>Specific Gravity</b> (Air = 1) at 21.1°C (70°F) and 1 atm	: 1.38
<b>Solubility In Water, vol/vol</b> at 0°C (32°F) and 1 atm	: 0.056
<b>Partition Coefficient: n-octanol/water</b>	: Not available.

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**9 PHYSICAL AND CHEMICAL PROPERTIES (Continued)**

<b>Autoignition Temperature</b>	: Not applicable.
<b>Decomposition Temperature</b>	: None.
<b>Percent Volatiles By Volume</b>	: 100
<b>Molecular Weight</b>	: 39.95
<b>Molecular Formula</b>	: Ar

**10 STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	: <input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Stable
<b>Conditions to Avoid</b>	: None known.
<b>Incompatible Materials</b>	: None known. Argon is chemically inert.
<b>Hazardous Decomposition Products</b>	: 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.
<b>Possible Of Hazardous Reactions</b>	: <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur

**11 TOXICOLOGICAL INFORMATION**

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

**12 ECOLOGICAL INFORMATION**


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

**13 DISPOSAL CONSIDERATION**

<b>Waste Disposal Method</b>	: Do not attempt to dispose of residual or unused quantities. Return cylinder to DIGAS. For emergency disposal, secure cylinder in a well-ventilated area or outdoors; then slowly discharge gas to the atmosphere.
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**14 TRANSPORT INFORMATION**

<b>Transport Information</b>	: 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.
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**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**

<b>NFPA Ratings:</b>		<b>HMS Ratings:</b>	
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.**

This Material Safety Data Sheet has been established for the best knowledge of DIGAS.

Details given in this document are believed to be correct at the best of DIGAS knowledge. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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**End of Documents**