

Safety Data Sheet Argon Liquid

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Argon Liquid

Section 2: Hazards Identification



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Hazard Classification: Gases Under Pressure

Hazard Statements: Contains gas under pressure; may explode if heated

Precautionary Statements

Storage:

Protect from sunlight. Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

CAS # 7440-37-1

| Chemical Substance | Chemical Family | Trade Names |
|--------------------|-----------------|-------------------------------------|
| ARGON, LIQUID | non-metallic | ARGON; AR; Argon (cryogenic liquid) |

Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
|---|--|----------------------------------|--|----------------------------------|
| Warm skin with warm water not to exceed 105°F (41°C). | Flush eyes with plenty of water. | Not applicable route of exposure | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. |

Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
|------------------------------|------------------------|----------------------------|
| Non-flammable gas | Not applicable | ■ N/A |
| | | ■ N/A |

Section 6: Accidental Release Measures

| Personal Precautions | Environmental Precautions | Methods for Containment |
|--|------------------------------|--|
| Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. | None known. | Stop leak if possible without personal risk. |

| Methods for Cleanup | Other Information |
|--|-------------------|
| Leaks may be detected by a soapy-water solution. | |

Section 7: Handling and Storage

| Handling | Storage |
|--|------------------|
| Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances. | Avoid using in |
| CFR 1910.101. Keep separated from incompatible substances. | confined spaces. |

Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines | |
|---------------------------|---|
| ACGIH (simple asphyxiant) | - |

Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection | Skin Protection | Respiratory Protection | |
|---------------------------|--------------------------|------------------------|--|
| Splash resistant goggles. | Wear insulated clothing. | N/A | |

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

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Section 9: Physical and Chemical Properties

| | Physical State | Appearance | Color | Change in Appearance | Physical Form | Odor | Taste |
|---|----------------|------------|-----------|----------------------|---------------|----------|-----------|
| Γ | Liquid | Colorless | Colorless | N/A | Liquid | Odorless | Tasteless |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|---------------|--------------|-----------------------|--------------------------|------------------------|------------------------|
| Not flammable | | | Nonflammable | Nonflammable | Nonflammable |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | рH | Odor Threshold | Evaporation Rate | Viscosity |
|-----------------------|---------------------|-------------------------|------------------|---------------------|---------------------|----------------|-------------------|-------------------|---------------------|
| -303 F (-186 C) | -308 F (- 189 C) | 500 mmHg @ -190 C | 1.38 (Air=1) | Not applicable | 3.36% @ 20 C | Not applicable | Not available | Not applicable | 0.0225 cP @ 25 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
|---------------------|----------------------|--------------------|----------------------|-------------------------|----------------|---------------------------|
| 39.948 | AR | 1.784 g/L @ 0 C | Not available | 100% | Not applicable | Soluble: Organic solvents |

Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
|---|---|------------------------|
| Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | No data available. |

| Hazardous Decomposition Products | Possibility of Hazardous Reactions |
|----------------------------------|------------------------------------|
| No data available. | Will not polymerize. |

Section 11: Toxicology Information

Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
|-----------------|--------------------|--|
| Not established | Not established | Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma |

| Eye Irritation | Skin Irritation | Sensitization |
|----------------|-----------------|----------------------------------|
| Frostbite | Frostbite | ASPHYXIANT, difficulty breathing |

Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
|-----------------|-----------------|----------------------|-----------------------|
| Not established | Not established | Not established | No data |

Section 12: Ecological Information

Fate and Transport

| Eco toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
|--------------------------------------|-----------------------------|--------------------------------|-------------------------|
| Fish toxicity: Not available | Not available | Not available | Not available |
| Invertibrate toxicity: Not available | | | |
| Algal toxicity: Not available | | | |
| Phyto toxicity: Not available | | | |
| Other toxicity: Not available | | | |

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Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

| Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|----------------------------|--------------|--------------------------------|------------------|--------------------------|--|--|---------------------------------------|
| Argon, Liquid | UN1951 | 2.2 | Not applicable | Nonflammable gas | 75 kg or L | 150 kg | N/A |

Canadian Transportation of Dangerous Goods

| Shipping Name | UN Number | Class | Packing Group / Risk Group |
|---------------|-----------|-------|----------------------------|
| Argon, liquid | UN1951 | 2.2 | Not applicable |

Section 15: Regulatory Information

U.S. Regulations

| CERCLA Sections | SARA 355.30 | SARA 355.40 |
|-----------------|----------------|----------------|
| Not regulated. | Not regulated. | Not regulated. |

SARA 370.21

| Acute | Chronic | Fire | Reactive | Sudden Release |
|-------|---------|------|----------|----------------|
| Yes | No | No | No | Yes |

SARA 372.65

Not regulated.

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65
Not regulated.

Canadian Regulations

WHMIS Classification

National Inventory Status

| US Inventory (TSCA) | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) | |
|----------------------|------------------------------|-----------------------------|--|
| Listed on inventory. | Not listed. | Listed on inventory. | |

Section 16: Other Information

NFPA Rating

HEALTH=3 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

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