

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Mixture
Product name : AR - Acetaldehyde 0.1%-3%
Other means of identification : Mixture of Acetaldehyde and Argon

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24 hr/day 7 days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Press. Gas (Comp.) H280
Carc. 1A H350

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS04

GHS08

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
H350 - May cause cancer
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P271+P403 - Use and store only outdoors or in a well-ventilated place.
P501 - Dispose of contents/container in accordance with container Supplier/owner instructions.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

Other hazards not contributing to the classification : Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Argon	(CAS-No.) 7440-37-1	97 - 99.9
Acetaldehyde	(CAS-No.) 75-07-0	0.1 - 3

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately..

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

- Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

- Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with their provincial and local fire code regulations.
- Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
- Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
- Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Ensure adequate air ventilation. Evacuate area. Monitor concentration of released product.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. 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. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

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

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetaldehyde (75-07-0)		
ACGIH	ACGIH TLV-C (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	360 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
Argon (7440-37-1)		
ACGIH	Not established	
USA OSHA	Not established	

8.2. Exposure controls

Appropriate engineering controls

: Alarm detectors should be used when toxic gases may be released. Product to be handled in a closed system and under strictly controlled conditions. Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation.

Eye protection

: Wear safety glasses with side shields.

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

Skin and body protection	: Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
Thermal hazard protection	: Wear cold insulating gloves when transfilling or breaking transfer connections.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Colourless
Odour	: No data available
Odour threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: Not applicable.
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: No data available
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Acetaldehyde (75-07-0)	
LD50 oral rat	660 mg/kg
LC50 inhalation rat (ppm)	13000 ppm/4h
ATE US (oral)	660 mg/kg bodyweight
ATE US (gases)	13000 ppmv/4h

Skin corrosion/irritation : Not classified
pH: Not applicable.

Serious eye damage/irritation : Not classified
pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Acetaldehyde (75-07-0)	
IARC group	1 - Carcinogenic to humans, 2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acetaldehyde (75-07-0)	
LC50 fish 1	31 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	4.9 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	48.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

AR - Acetaldehyde 0.1%-3%	
Persistence and degradability	No ecological damage caused by this product.

Argon (7440-37-1)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

AR - Acetaldehyde 0.1%-3%	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

Acetaldehyde (75-07-0)	
Log Pow	0.5
Argon (7440-37-1)	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

AR - Acetaldehyde 0.1%-3%	
Mobility in soil	No data available.
Argon (7440-37-1)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on the ozone layer : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s., 2.2

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, n.o.s.

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Symbols : G - Identifies proper shipping name (PSN) requiring the addition of technical name(s) in parentheses following the PSN.

Additional information

Other information : No supplementary information available.

Special transport precautions : 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 there is adequate ventilation. - 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.

Transport by sea

UN-No. (IMDG) : 1956

Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.

Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

Air transport

UN-No. (IATA) : 1956

Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.

Class (IATA) : 2

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetaldehyde (75-07-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
CERCLA RQ	1000 lb
SARA Section 313 - Emission Reporting	0.1 %

15.2. International regulations

CANADA

Acetaldehyde (75-07-0)

Listed on the Canadian DSL (Domestic Substances List)

Argon (7440-37-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Acetaldehyde (75-07-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Acetaldehyde (75-07-0)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical

15.3. US State regulations

AR - Acetaldehyde 0.1%-3%()

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

Acetaldehyde (75-07-0)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

AR - Acetaldehyde 0.1%-3%

Safety Data Sheet P-18-29824

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 10/26/2017

Argon (7440-37-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Acetaldehyde (75-07-0)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Argon (7440-37-1)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product.

Praxair Canada Inc, SDSs are furnished on sale or delivery by Praxair Canada Inc, or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.ca. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write Praxair Canada Inc, (Phone: 1-888-257-5149; Address: Praxair Canada Inc, 1 City Centre Drive, Suite 1200, Mississauga, Ontario, L5B 1M2).

PRAXAIR and the Flowing Airstream design are trademarks or registered trademarks of Praxair Technology, Inc. in the United States and/or other countries.

SDS US (GHS HazCom 2012) - PDI

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.