



Energy & Environmental Services
Oilfield Chemicals & Coatings

Energy & Environmental Services
6300 N.W. Expressway
Oklahoma City, OK 73132

AR-610

ACID RETARDER

Product Benefits

- Increase Acid Penetration
- Effectively Retards HCl Varying in Strength up to 28%
- Possesses Good Water-wetting Properties

General Description

AR-610 is designed to chemically retard acid reaction rate to allow for greater penetration through chemical filming action on the formation surface that partially blocks acid soluble materials from contact with live acid. This chemical barrier is more effective against acid attack if oil is present since a chemical / oil barrier will be provided.

Application

AR-610 is typically added to the acid during the loading operation. Concentrations vary from 5 gallons **AR-610** per thousand gallons of 15% HCl to 15 gallons **AR-610** per thousand gallons of 28% HCl. Using a fluid pad in conjunction with a retarded acid will lessen the acid reaction rate at the well bore and extend the etching pattern. A gelled water pad of 50% to 100% of the size of the acid treatment is particularly effective.

Handling

AR-610 is Flammable Liquid packaged in drums, totes and pails. Care should be taken to avoid contact with skin and eyes. If contact occurs, flush exposed area with copious amounts of water, and if irritation continues consult a physician. Please refer to Safety Data Sheet for complete shipping and handling information. SDSs are available upon request and are forwarded with all **AR-610** purchases.

Typical Physical Properties

Appearance.....	Liquid
Specific Gravity.....	1.02
Density lbs/gal.....	8.5
Flashpoint.....	105 °F
Pour point.....	4 °F
Viscosity.....	N/A
Solubility.....	Fresh Water
Ionic Charge.....	Anionic
pH.....	N/A

This information is believed reliable, however, all recommendations are made without guarantee, since the conditions of use are beyond our control. All products are sold without warranty, expressed or implied, and on the condition that purchasers shall make their own tests to determine the suitability of such products for their purposes and that all risks are assumed by the user. Statements contained herein shall not be construed to be a recommendation to infringe any patent.

6300 N.W. Expressway

Oklahoma City, OK 73132, USA

Phone: 405-843-8996

DLC Patent Pending

R-1 (06/14)

Safety Data Sheet (SDS)

OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS

Rev03.

Reviewed on 06/01/2015

1 Product and Company Identification

- **Product identifier**
- **Trade name: AR-610**
- **Article number: EES AR610**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product description** Uses: Acid Retarder
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Energy & Environmental Services
6701 Boucher Dr.
Edmond, OK. 73034
PH. (405) 471-6888
Fax (405) 471-6505
- **Emergency telephone number: Chemtrec (800) 424-9300**

2 Hazards identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

STOT SE 1 H370 Causes damage to organs.

- **Label elements**

- **GHS label elements**

The product is classified and labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS06 GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

methanol

- **Hazard statements**

H226 Flammable liquid and vapour.

H331 Toxic if inhaled.

H370 Causes damage to organs.

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Precautionary statements

Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:**NFPA ratings (scale 0 - 4)****HMIS-ratings (scale 0 - 4)**

HEALTH	*3	Health = *3
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

Other hazards**Results of PBT and vPvB assessment**

- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

67-56-1 methanol	25-50%
Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	
isopropanol	2-12%
Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	

4 First aid measures

Description of first aid measures**General information:**

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

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- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

67-56-1 methanolPEL 260 mg/m³, 200 ppmREL Short-term value: 325 mg/m³, 250 ppmLong-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 328 mg/m³, 250 ppmLong-term value: 262 mg/m³, 200 ppm

Skin; BEI

isopropanolPEL 980 mg/m³, 400 ppmREL Short-term value: 1225 mg/m³, 500 ppmLong-term value: 980 mg/m³, 400 ppmTLV Short-term value: 984 mg/m³, 400 ppmLong-term value: 492 mg/m³, 200 ppm

BEI

- **Ingredients with biological limit values:**

67-56-1 methanol

BEI 15 mg/L

urine

end of shift

Methanol (background, nonspecific)

isopropanol

BEI 40 mg/L

urine

end of shift at end of workweek

Acetone (background, nonspecific)

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid
Color: Amber colored
Odor: Like alcohol
Odour threshold: Not determined.

pH-value at 20 °C (68 °F): Not applicable.

Change in condition

Melting point/Melting range: ~32 C
Boiling point/Boiling range: 64 °C (147 °F)

Flash point: 41 °C (105 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 455 °C (851 °F)

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Explosion limits:

Lower: 5.5 Vol %

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· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

· Toxicity**· Aquatic toxicity:** No further relevant information available.**· Persistence and degradability** No further relevant information available.**· Behavior in environmental systems:****· Bioaccumulative potential** No further relevant information available.**· Mobility in soil** No further relevant information available.**· Additional ecological information:****· General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· Results of PBT and vPvB assessment**· PBT:** Not applicable.**· vPvB:** Not applicable.**· Other adverse effects** No further relevant information available.

13 Disposal considerations

· Waste treatment methods**· Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number

UN1992

· DOT, ADR, IMDG, IATA

None

· UN proper shipping name

FLAMMABLE LIQUID, TOXIC, N.O.S. (METHANOL, ISOPROPANOL (ISOPROPYL ALCOHOL))

· DOT, IMDG, IATA

1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (METHANOL, ISOPROPANOL (ISOPROPYL ALCOHOL))

· ADR**· Transport hazard class(es)****· DOT****· Class**

3 Flammable liquids.

· Label

3+6.1

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· **ADR, IMDG, IATA**



· Class	3 Flammable liquids
· Label	3+6.1
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	336
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S. (METHANOL, ISOPROPANOL (ISOPROPYL ALCOHOL)), 3 (6.1), II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.
- **Section 313 (Specific toxic chemical listings):**
All ingredients are listed.
- **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
- **TLV (Threshold Limit Value established by ACGIH)**
isopropanol
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labelled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS06 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

methanol

· **Hazard statements**

H226 Flammable liquid and vapour.

H331 Toxic if inhaled.

H370 Causes damage to organs.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent