

AP-Silane 81

Section 1. Product and Company Identification

Product Name:	AP-Silane 81
Chemical Name/Family:	γ -Mercaptopropyl trimethoxy silane
CAS No.:	4420-74-0
Product Use:	Coupling Agent
Restrictions:	Industrial Use Only
Company:	Advanced Polymer, Inc.
Address:	400 Paterson Plank Road Carlstadt, NJ 07072 U.S.A.
Telephone:	201-933-0600
Fax:	201-933-8442
24 Hour Emergency Number	800-424-9300
24 Hour Chemtrec Number	800-424-9300

Section 2. Hazards Identification

GHS Classification:

Physical Hazards

Flammable Liquids Category 4

Health Hazards

Acute toxicity, Oral Category 4

Sensitization, Skin Category 1

Environmental Hazards

Hazardous to the aquatic environment, acute toxicity Category 2

Hazardous to the aquatic environment, chronic toxicity Category 2

GHS Label:



Symbol:

Signal Word: **Warning**

Hazard Classification:

Hazard Statement:

Combustible liquid

May cause an allergic skin reaction

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

Precautionary Statement:

Prevention:

- Keep away from flames and hot surfaces.
- Wear protective gloves/eye protection/face protection.
- Wash skin and exposed areas thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.

Response:

- In case of fire: Use foam, dry chemical powder and Carbon Dioxide (CO₂) for extinction.
- IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
- IF ON SKIN: Wash with plenty of soap and water.
- If skin irritation or rash occurs: Get medical advice/ attention.
- See Section 4 of this SDS for specific treatment.
- Wash contaminated clothing before reuse.
- Collect spillage.

Storage

- Store in a well-ventilated place. Keep cool.
- Store locked up.

Disposal

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

Potential Health Effects

This product slowly reacts with water, acids or bases to evolve the following compounds: Methanol. Dermatitis. Rash. Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction.

Section 3. Composition/Information on Ingredients

Ingredients	CAS No.	Percent
γ -Mercaptopropyl trimethoxy silane	4420-74-0	>98

Section 4. First Aid Measures

- Skin Contact:** Remove from skin and immediately wash area with detergent. Get medical attention if irritation or ill effects develop.
- Eye Contact:** Immediately flush with water for 15 minutes and seek medical attention if necessary.
- Inhalation:** Move to fresh air and seek medical attention if necessary.
- Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Seek medical attention if necessary.

Section 5. Firefighting Measures

Fire and Explosion Hazard:	Combustible liquid. By heating and fire, harmful vapors/gases may be formed.
Fire Extinguishing Media:	Foam, dry chemical powder, carbon dioxide (CO ₂).
Unsuitable Extinguishing Media:	Water.
Specific Hazards in Case of Fire:	Do not release runoff from fire control methods to sewers or waterways. Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air: Sulfur Oxides (corrosive)
Special Fire Fighting Information:	Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6. Accidental Release Measures

Personal Precautions:	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Ensure adequate ventilation. Wear appropriate personal protective equipment. Avoid breathing mist or vapor.
Protective Equipment:	See Section 8.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Cannot enter drains.
Methods and Materials for Containment and Cleaning up:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.

Section 7. Handling and Storage

Handling Conditions:	Keep away from open flames, hot surfaces and sources of ignition. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. **Agitate contents of container before use**
Storage Conditions:	Keep away from heat, sparks and open flame. Store in original tightly closed container. Store in a well-ventilated place. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight. Keep in original container.

Section 8. Exposure Control/Personal Protection

Exposure Limits:	No Information Available
Appropriate engineering controls:	Explosion-proof general and local exhaust ventilation. Provide eyewash station.
Personal protective equipment:	

Respiratory Protection:	If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
Hand Protection:	Wear protective gloves.
Eye Protection:	Tightly sealed safety glasses according to EN 166.
Skin and Body Protection:	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hygiene Measures:	Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

Physical State:	Liquid, Clear
Color:	Colorless
Odor:	Mercapto odor
Odor Threshold:	No data available.
pH:	No data available.
Specific Gravity (77°F):	1.06
% Volatile by Weight:	No data available.
Melting Point:	No data available.
Freezing Point:	No data available.
Boiling point:	219°C (426.2°F)
Flash Point:	85 °C (185 °F) - closed cup.
Evaporation Rate (BuAc=1):	No data available.
Flammability:	No data available.
Explosion Limits:	No data available.
Vapor Pressure (mmHg):	< 1.3 kPa (25 °C)
Vapor Density (Air=1):	>6.8
Solubility:	Not soluble in water (Hydrolyzed with water)
Partition Coefficient:	No data available.
Auto-ignition Temperature:	No data available.
Viscosity:	No data available.
Decomposition Temperature:	No data available.

Section 10. Stability and Reactivity

Chemical Stability:	Is stable at room temperature in closed containers under normal storage and handling conditions. May decompose on exposure to moist air or water.
Hazardous Polymerization:	Hazardous polymerization cannot occur.
Conditions to Avoid:	Contact with water or moisture until ready for use. Heat, flames and sparks. Slowly reacts with water, acids or bases.
Incompatible Materials:	Strong oxidizing agents and acids.
Hazardous Decomposition Products:	No data available.

Section 11. Toxicological Information

Primary Routes of Entry:

Eye:	Yes	Skin:	Yes	Inhalation:	Yes	Ingestion:	Yes
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Potential Health Effects:

Inhalation:	Prolonged inhalation may be harmful.
Ingestion:	Although ingestion is unlikely, Harmful if swallowed.
Skin:	May cause an allergic skin reaction.
Eyes:	Direct contact with eyes may cause temporary irritation.

Signs and Symptoms of Exposures:

Acute Toxicity:	LD50 Oral - Rat – 1.46 ml/kg
Methanol (Impurity CAS# 67-56-1)	LD50 Dermal - Rabbit - 15800 mg/kg LC50 Inhalation Rat 64000 ppm, 4 hours; 87.5 mg/l, 6 hours LD50 Oral Mouse 7300 mg/kg; Rabbit 14.4g/kg; Rat 4628 mg/kg
Chronic Toxicity:	Prolonged inhalation may be harmful.
Respiratory or Skin Sensitization:	May cause an allergic skin reaction.
Mutagenicity:	Negative (Bacteria)

Carcinogenicity:

IARC:	No	NTP:	No	OSHA:	No
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Section 12. Ecological Information

Ecotoxicity (Aquatic and Terrestrial):

Product Species Test Results

AP-Silane 81

Aquatic

Algae IC50 Algae	43.043 mg/l, 72 hr estimated
Crustacea EC50 Daphnia	6.7067 mg/l, 48 hr estimated
Fish LC50 Fish	2.4024 mg/l, 96 hr estimated
Algae IC50 Algae	43 mg/l, 72 hr
Crustacea EC50 Daphnia	6.7 mg/l, 48 hr
Fish LC50 Rainbow Trout	2.4 mg/l, 96 hr

Methanol(Impurity) (CAS 67-56-1)

Aquatic

Crustacea EC50 Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish LC50 Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available.
PBT and vPvB Assessment:	No data available.
Other Adverse Effects:	No data available.

Section 13. Disposal Considerations

Product:	Follow applicable Federal, State and Local regulations.
Disposing of Contaminated Packaging:	Dispose of as unused product.

Section 14. Transport Information

Land Transport (DOT):

UN Number:	UN3082
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Organosilane)
Transport Hazard Class:	9
Packing Group:	III

Sea Transport (IMDG):

UN Number:	UN3082
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Organosilane)
Transport Hazard Class:	9
Packing Group:	III

Air Transport (IATA):

UN Number:	3334
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Organosilane)
Transport Hazard Class:	9
Packing Group:	III

Environmental Hazards (e.g., Marine pollutant): Yes

Section 15. Regulatory Information

International Inventories:

TSCA (USA):	Yes
DSL (Canada):	Yes
ENCS (Japan)	Yes
EINECS (Europe):	Yes
IECSC (China):	Yes
KECL (Korea):	Yes
PICCS (Philippines):	Yes
AICS (Australia):	Yes
ERMA (New Zealand):	Yes

Federal Regulations:

SARA 313:	No data available.
SARA 311/312:	No data available.
Clean Water Act:	No data available.
Clean Water Act:	No data available.
Clean Air Act, Section 112 HAPs (See 40CFR61):	No data available.

State Regulations:

Massachusetts Right to Know Components:	Methanol (Impurity CAS# 67-56-1)
New Jersey Right to Know Components:	Methanol (Impurity CAS# 67-56-1)
Pennsylvania Right to Know Components:	Methanol (Impurity CAS# 67-56-1)
California Proposition 65:	Methanol (Impurity CAS# 67-56-1)

Section 16. Other Information

WHMIS Classification: No data available.

HMIS Rating:

Health Hazard 2

Flammability: 2

Physical Hazard: 0

Personal Protection Equipment: X

NFPA Rating

Health Hazard: 2

Fire Hazard: 2

Reactivity Hazard: 0

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