

AP-SILANE 21

Section 1. Product and Company Identification

Product Name:	AP-SILANE 21
Chemical Name/Family:	Vinyl trimethoxy silane
CAS No.:	2768-02-7
Product Use:	Coupling Agent
Restrictions:	For 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:

Flammable liquids	Category 3
Acute toxicity, inhalation	Category 4

GHS Label:



Pictogram:

Signal Word: Warning

Hazard Classification:

Hazard Statement:

Flammable liquid and vapour
Harmful if inhaled

Precautionary Statement:

Prevention

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.

Response

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

In case of fire: Use foam, dry chemical powder and carbon dioxide (CO₂) for extinction.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

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

Section 3. Composition/Information on Ingredients

Ingredients	CAS No.	Percent
Vinyltrimethoxysilane	2768-02-7	>99
Methanol (Impurity)	67-56-1	< 0.1
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.		

Section 4. First Aid Measures

Skin Contact:	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use.
Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Seek medical attention immediately.
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Please note: Symptoms may be delayed; prompt medical attention may be required. Call a physician.
Ingestion:	Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Section 5. Firefighting Measures

Specific Hazards in Case of Fire:	Flammable liquid and vapor. By heating and fire, harmful vapors/gases may be formed. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.
Fire Extinguishing Media:	Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable Extinguishing Media:	Water.
Special Protective Equipment and Precaution for Firefighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Unusual Fire & Explosion Hazards:	No information available.

Section 6. Accidental Release Measures

Personal Precautions:	Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form concentrations. Vapours can accumulate in low areas.
Protective Equipment:	Wear appropriate personal protective equipment (e.g. safety goggles, protective gloves, dust respirators)
Environmental Precautions:	Prevent entry into waterways, sewer, basements or confined areas. Avoid release to the environment.
Methods and Materials for Containment and Cleaning up:	Turn off ignition sources. Use only non-sparking tools. 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. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Section 7. Handling and Storage

Handling Conditions:	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion proof equipment. Do not breathe mist or vapor. Wear appropriate personal protective equipment. Avoid release to the environment. Do not empty into drains. **Agitate contents of container before using**
Storage Conditions:	Keep away from heat, sparks and open flame. Keep container tightly closed. 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.*** Agitate contents of container before using ***

Section 8. Exposure Control/Personal Protection

Exposure Limits:	Methanol (Impurity) ACGIH TLV-TWA : 200 ppm; STEL : 250 ppm OSHA PEL : 260 mg/m3 NIOSH TWA: 250 ppm, 260 mg/m3, 200 ppm; STEL : 325 mg/m3
Appropriate engineering controls:	Explosion-proof general and local exhaust ventilation
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:	Wear suitable protective clothing. Wear appropriate thermal protective clothing, when necessary. Provide eyewash and safety shower station.
Hygiene Measures:	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Section 9. Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless, transparent
Odor:	Slight odor
Odor Threshold:	No information available
pH:	N.A.
Specific Gravity (77°F):	0.97
% Volatile by Weight:	100
Melting Point:	No information available
Freezing Point:	No information available
Boiling point:	123°C (253°F)
Flash Point:	23°C (73°F) – closed cup
Evaporation Rate (BuAc=1):	>1
Flammability:	1.42 % v/v – lower limit 22.7 % v/v – upper limit
Vapor Pressure (mmHg):	< 2.6 kPa (25 °C)
Vapor Density (Air=1):	5.1
Solubility:	Insoluble in water (Hydrolyzed with water)
Partition Coefficient:	No information available
Auto-ignition Temperature:	> 392 °F (> 200 °C)
Viscosity:	No information available
Decomposition Temperature:	No information available

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressure
Reactivity:	Slowly reacts with water, acids and bases.
Hazardous Polymerization:	May not occur
Conditions to Avoid:	Avoid heat, flames, sparks and other sources of ignition. Avoid extreme temperature and direct sunlight. Hydrolyzed with water but no hazard.
Incompatible Materials:	Strong oxidizing agents. Water, acids or alkalis
Hazardous Decomposition Products:	This product slowly reacts with water, acids or bases to evolve following compounds: Methanol Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide.

Section 11. Toxicological Information

Primary Routes of Entry:

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

Inhalation	Harmful if inhaled.
Ingestion:	Expected to be a low ingestion hazard.
Skin:	No adverse effects due to skin contact are expected.

Eyes:	Direct contact with eyes may cause temporary irritation.
Signs and Symptoms of Exposures:	No information available.
Acute Toxicity:	<p>Methanol (Impurity) LD50 Rabbit (Derma) : 15800 mg/kg LC50 Rat (Inhalation) : 64000 ppm, 4 Hours; 87.5 mg/l, 6 Hours LD50 Mouse (Oral) : 7300 mg/kg; Rabbit 14.4 g/kg; Rat 5628 mg/kg</p> <p>Vinyltrimethoxysilane LD50 Rabbit (Dermal) : 3.36 - 4 ml/kg LC50 Rat (Inhalation) : 2773 ppm, 4 hr LD50 Rat (Oral) : 7.34 - 7.46 ml/kg; 11300 mg/kg</p>
Chronic Toxicity:	Prolonged inhalation may be harmful.
Skin Corrosion/irritation:	SKIN-RABBIT : 500mg/24 r MILD
Serious eye damage/eye irritation:	EYE-RABBIT : 500mg/24hr MILD
Respiratory or Skin Sensitization:	No information available
Specific target organ toxicity - single exposure	May cause damage to the following organs. Optic nerves. Central nervous system. [Methanol]
Mutagenicity:	No information available
Carcinogenicity:	

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

Ecotoxicity (Aquatic and Terrestrial):	<p>Methanol(Impurity) Aquatic : Crustacea EC50 Water flea (Daphnia magna) > 10000 mg/l, 48 hours Fish LC50 Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours</p> <p>Vinyltrimethoxysilane Aquatic : Algae EC50 Algae (Selenastrum) 210 mg/l, 72 hr Crustacea EC50 Daphnia 168.7 mg/l, 48 hr Fish Rainbow trout,donaldson trout (Oncorhynchus mykiss) LC50 191 mg/l, 96 hr</p>
Bioaccumulative Potential	No information available
Mobility in Soil:	No information available
PBT and vPvB Assessment:	No information available
Other Adverse Effects:	No information available

Section 13. Disposal Considerations

Product:	Can be burned in chemical incinerator equipped with afterburner and scrubber but exert extra care in igniting as this product is very flammable. Do not dump into sewers, on the ground or into any body of water. Do not dispose unlawfully. Observe all federal, state, and local laws.
Disposing of Contaminated Packaging:	Do not dispose of the emptied container unless the contents have been completely removed and container has been flushed with a clean neutral solvent and then dried up. Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transport Information

Land Transport (DOT):

UN Number:	UN1993
UN Proper Shipping Name:	Flammable liquids, N.O.S.
Technical Shipping Name:	(vinyltrimethoxysilane)
Transport Hazard Class:	3
Packing Group:	III

Sea Transport (IMDG):

UN Number:	1993
UN Proper Shipping Name:	Flammable liquid, N.O.S.
Technical Shipping Name:	(vinyltrimethoxysilane)
Transport Hazard Class:	3
Packing Group:	III

Air Transport (IATA):

UN Number:	UN1993
UN Proper Shipping Name:	Flammable liquid, N.O.S.
Technical Shipping Name:	(vinyltrimethoxysilane)
Transport Hazard Class:	3
Packing Group:	III

Environmental Hazards (e.g., Marine pollutant): None

Section 15. Regulatory Information

International Inventories:

TSCA (USA):	Yes
DSL (Canada):	Yes
ENCS (Japan)	No information available
EINECS (Europe):	Yes
IECSC (China):	Yes
KECL (Korea):	Yes
PICCS (Philippines):	Yes
AICS (Australia):	Yes
ERMA (New Zealand):	Yes

Federal Regulations:

SARA 313:	Methanol(Impurity) (CAS 67-56-1)
SARA 311/312:	Fire Hazard
Clean Water Act:	No information available.
Clean Air Act, Section 112 HAPs (See 40CFR61):	No information 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 information available

HMIS Rating:

Health Hazard 2

Flammability: 3

Physical Hazard: 0

Personal Protection Equipment: X

NFPA Rating

Health Hazard: 2

Fire Hazard: 3

Reactivity Hazard: 0

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