AP-SILANE 90

Section 1. Product and Company Identification

Product Name: AP-SILANE 90
Chemical Name/Family: Methyltriethoxysilane
CAS No.: 1185-55-3
Product Use: Coupling Agent / Water Repellent
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:

Physical Hazards
Flammable liquids Category 2

Health Hazards Not Classified

Environmental Hazards Not Classified

GHS Label:

Pictogram:

Signal Word: Danger

Hazard Classification:

Hazard Statement:
Highly flammable liquid and vapor.

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 non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Response:
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.

Storage:
Store in a well-ventilated place. Keep cool.

Disposal:
Dispose of contents/container to an approved waste disposal plant.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyltrimethoxysilane</td>
<td>1185-55-3</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>Methanol (Impurity)</td>
<td>67-56-1</td>
<td>&lt;0.10%</td>
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</table>

Section 4. First Aid Measures

Skin Contact: Take off immediately all contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops and persists.
Eye Contact: Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.
Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.
Ingestion: Rinse mouth. Get medical attention immediately.

Section 5. Firefighting Measures

Fire and Explosion Hazard: Vapors form explosive mixtures with air. Vapors may travel considerable distance to source of ignition and flash back.
Fire Extinguishing Media: Foam, dry chemical, or carbon dioxide.
Unsuitable Extinguishing Media: None
Specific Hazards in Case of Fire: Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Cool container with water spray.
Special Fire Fighting Information: Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment.

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, respirators)
Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and Materials for Containment and Cleaning up: Turn off ignition sources. Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.
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. Vapors may form explosive mixtures with air. Provide adequate ventilation. Avoid release to the environment. Do not empty into drains.

Storage Conditions: Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Keep container tightly closed. Store in a well-ventilated place. Keep in original container.

Section 8. Exposure Control/Personal Protection

Exposure Limits:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Methanol (Impurity) CAS# 67-56-1  PEL  260 mg/m3
200 ppm

US. ACGIH Threshold Limit Values
Methanol (Impurity) CAS# 67-56-1  STEL  250 ppm
TWA  200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards
Methanol (Impurity) CAS# 67-56-1  STEL  325 mg/m3
250 ppm
TWA  250 ppm
260 mg/m3
200 ppm

Biological limit Values
ACGIH Biological Exposure Indices
Methanol (Impurity) CAS# 67-56-1  Urine

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: Chemical resistant gloves.
Eye Protection: Safety glasses should be worn.
Skin and Body Protection: Wear appropriate chemical resistant clothing.
Hygiene Measures: Wash hands thoroughly after handling.
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 (25°F):** ~0.93
- **% Volatile by Weight:** 100
- **Melting Point:** No information available
- **Freezing Point:** No information available
- **Boiling point:** 102°C (215.6°F)
- **Flash Point:** 8°C (46.4°F) – closed cup
- **Evaporation Rate (BuAc=1):** >1
- **Flammability:** No information available
- **Vapor Pressure (mmHg):** 5.9 kPa (25°C)
- **Vapor Density (Air=1):** 4.7
- **Solubility:** Insoluble in water (Hydrolyzed with water)
- **Partition Coefficient:** No information available
- **Auto-ignition Temperature:** No information available
- **Viscosity:** No information available
- **Decomposition Temperature:** No information available

Section 10. Stability and Reactivity

- **Chemical Stability:** Stable at normal temperatures and pressure
- **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:** Water, acids, or alkalis
- **Hazardous Decomposition Products:** Methanol (Flammable and Poisonous liquids)

Section 11. Toxicological Information

- **Primary Routes of Entry:**
  - **Eye:** Yes
  - **Skin:** Yes
  - **Inhalation:** Yes
  - **Ingestion:** Yes

- **Potential Health Effects:**
  - **Inhalation:** Prolonged inhalation may be harmful.
  - **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:**
  - **Methanol CAS# 67-56-1**
    - LD50 (Dermal/Rabbit): 15800 mg/Kg
    - LC50 (Inhalation/Rat): 64000 ppm / 4Hr; 87.5 mg/L / 6 LC50
      - (Inhalation/Rat): 64000 ppm / 4Hr; 87.5 mg/L / 6 hrs
LD50 (Oral/Mouse): 73000 mg/kg
LD50 (Oral/Rabbit): 14.4 g/kg
LD50 (Oral/Rat): 5628 mg/kg

Methyltriethoxysilane CAS# 1185-55-3
LC50 (Inhalation/Rat): >7605 ppm OECD 403
LD50 (Oral/Rat): 12300 μl/kg

Chronic Toxicity: May cause conjunctivitis, dizziness, sleeplessness and gastrointestinal and optical disturbances (Methanol – decomposed product).

Respiratory or Skin Sensitization: No information available
Mutagenicity: No information available
Carcinogenicity:

<table>
<thead>
<tr>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
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<tr>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

Ecotoxicity (Aquatic and Terrestrial): Methanol CAS# 67-56-1
Aquatic: Crustacea EC50 Waterflea (Daphnia magna) >10000 mg/L, 48 hours
Fish: LC50 Fathead minnow (Pimephales promelas) >100 mg/l, 96 hours

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: 1993
UN Proper Shipping Name: Flammable liquids, N.O.S.
Technical Shipping Name: (Methyltriethoxysilane)
Transport Hazard Class: 3
Packing Group: II

Sea Transport (IMDG):
UN Number: 1993
UN Proper Shipping Name: Flammable liquid, N.O.S.
Technical Shipping Name: (Methyltriethoxysilane)
Transport Hazard Class: 3
Packing Group: II

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

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

Section 15. Regulatory Information

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

Federal Regulations:
SARA 313: None
SARA 311/312: No information available
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 CAS# 67-56-1
New Jersey Right to Know Components: Methanol CAS# 67-56-1
Pennsylvania Right to Know Components: Methanol CAS# 67-56-1
California Proposition 65: Methanol CAS# 67-56-1

Section 16. Other Information

WHMIS Classification: No information available

HMIS Rating:
Health Hazard: 1
Flammability: 3
Physical Hazard: 0
Personal Protection Equipment: X

NFPA Rating
Health Hazard: 1
Fire Hazard: 3
Reactivity Hazard: 0
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