Section 1. Product and Company Identification

Product Name: AP-Silane 32
Chemical Name/Family: N-β(aminoethyl)-γ-aminopropyl-trimethoxy silane
CAS No.: 1760-24-3
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:

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, inhalation</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Sensitization, skin</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, acute toxicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

GHS Label:

Symbol: 

Signal Word: Danger

Hazard Classification:

Hazard Statement:
- Harmful if inhaled
- Causes serious eye damage
- May cause an allergic skin reaction
- Toxic to aquatic life

Precautionary Statement:

Prevention
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response

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.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment (see supplemental first aid instructions on this SDS).
Wash contaminated clothing before reuse.

Storage

No information available.

Disposal

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

### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-β[(aminoethyl)-γ-aminopropyl]-trimethoxy silane</td>
<td>1760-24-3</td>
<td>&gt;98</td>
</tr>
<tr>
<td>Methanol (impurity)</td>
<td>67-56-1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

### Section 4. First Aid Measures

**Skin Contact:** Wash off with soap and plenty of water. Consult a physician. Wash contaminated clothing before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Inhalation:** Immediately remove to fresh air. 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:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 5. Firefighting Measures

**Fire and Explosion Hazard:** Burning ca produce nitrogen oxides, a toxic and corrosive gas.

**Fire Extinguishing Media:** Use alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media:** No Information Available

**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 contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking.

Protective Equipment: Wear appropriate protective equipment.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Shut off all sources of ignition.

Methods and Materials for Containment and Cleaning up: Contain the spill or leak. Scrape up with rag 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: Avoid contact with eyes, skin and clothing. Avoid inhalation of vapor or mist. Wear suitable gloves and eye/face protection. Keep away from sources of ignition. Avoid contact with water or moisture.

**Agitate contents of container before using**

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame. Do not lay the container on its side. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not puncture or cut this container, and do not weld on or near this container. Keep out of reach of children.

Section 8. Exposure Control/Personal Protection

Exposure Limits: Methanol (Impurity) (CAS# 67-56-1):
OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL 260 mg/m3; 200 ppm
ACGIH Threshold Limit Values
STEL 250 ppm
TWA 200 ppm
NIOSH: Pocket Guide to Chemical Hazards
STEL 325 mg/m3; 250 ppm
TWA 260 mg/m3; 200 ppm

Appropriate engineering controls: Local Exhaust: Recommended
Mechanical (general): Adequate ventilation system

Personal protective equipment:
Respiratory Protection: NIOSH approved respirator as needed
Hand Protection: Rubber or plastic gloves should be worn
Eye Protection: Face shield or protective goggles should be worn
Skin and Body Protection: Rubber apron
Other Protective Equipment: Eye wash equipment and safety shower should be available.
Hygiene Measures: Avoid breathing vapor. Avoid contact with eyes and skin. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

Physical State: Liquid
Color: Colorless, transparent
Odor: Amine odor
Section 10. Stability and Reactivity

Chemical Stability: Stable;
Reactivity: Slowly react with water, acids or bases.
Hazardous Polymerization: May not occur
Conditions to Avoid: Store in a well-ventilated place at temperatures below 120°F.
Incompatible Materials: Will hydrolyze with water, but no hazard. Avoid contact with acids, bases and water.
Hazardous Decomposition Products: 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. Nitrogen oxides.

Section 11. Toxicological Information

Primary Routes of Entry:

| Eye:   | Yes | Skin: | Yes | Inhalation: | No | Ingestion: | Yes |

Potential Health Effects:

- Inhalation: Causes irritation in mucous membranes and upper respiratory tract.
- Ingestion: Although ingestion is unlikely, liquid may irritate upper digestive tract if swallowed.
- Skin: Causes skin irritation. May cause an allergic skin reaction
- Eyes: Causes serious eye damage.

Signs and Symptoms of Exposures:

- Acute Toxicity: N-β(amoenoethyl)-γ-aminopropyl-trimethoxy silane (CAS # 1760-24-3)
LD50 (Dermal/Rabbit) >2000 mg/kg; 16ml/kg
LD50 (Oral/Rat) 2,995 mg/kg; 2400 mg/kg
LC50 (Inhalation/Rat) 1.49 – 2.44 mg/l/4h

**LD50 (Oral/Rat) 2,995 mg/kg; 2400 mg/kg**

**LD50 (Oral/Rabbit) 14.4 g/kg**

**LD50 (Oral/Rat) 5628 mg/kg**

**Chronic Toxicity:**
Prolonged inhalation may be harmful.

**Skin corrosion/irritation:**
Skin - Rabbit: Moderately irritating

**Serious eye damage/eye irritation:**
Eye - Rabbit: No information available

**Respiratory Sensitization:**
Positive (Guinea pig)

**Mutagenicity:**
Negative (Ames Test, Chromosome analysis, Micronucleus test)

**Reproductive toxicity:**
Developmental toxicity: NOAEL 500mg/kg/day (Rat), Maternal toxicity: NOAEL 500mg/kg/day (Rat)

**Specific target organ toxicity - single exposure**
Optic nerves. Central nervous system. [Methanol]

**Specific target organ toxicity - repeated exposure**
No information available

**Aspiration hazard**
No information available

**Carcinogenicity:**
IARC: No  
NTP: No 
OSHA: No

### Section 12. Ecological Information

**Ecotoxicity (Aquatic and Terrestrial):**

- Aquatic
  - 3-(2-Aminoethylamino)propyltrimethoxysilane (CAS # 1760-24-3):
    - Algae EBC50 Green algae (Selenastrum capricornutum) 5.5 mg/l, 72 hr
    - ErC50 Green algae (Selenastrum capricornutum) 8.8 mg/l, 72 hr
    - Fish LC50 Bluegill (Lepomis macrochirus) > 10000 mg/l, 48 hr
    - Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hr
    - Rainbow Trout > 100 mg/l, 96 hr

- Methanol(Impurity) (CAS # 67-56-1):
  - 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 information available

**Mobility in Soil:**
No information available

**PBT and vPvB Assessment:**
No information available

**Other Adverse Effects:**
Easily causes hydrolysis in water or atmosphere.

### Section 13. Disposal Considerations

**Product:**
Dispose of according to State, Local and EPA regulations. Can be burned in a chemical incinerator equipped with an afterburner and scrubber.

**Disposing of Contaminated Packaging:**
Do not dispose if unopened. Do not disposed emptied container unless the contents have been completely removed and container has been flushed with a clean neutral solvent and then dried up. Do not dispose the emptied container unlawfully. Observe all federal state and local laws.
Section 14. Transport Information

**Land Transport (DOT):**
- Not Regulated
  - UN Number: None
  - UN Proper Shipping Name: None
  - Technical Shipping Name: None
  - Transport Hazard Class: None
  - Packing Group: None

**Sea Transport (IMDG/IMO):**
- Contains organosilane
  - Technical Shipping Name: Contains organosilane
  - UN Number: UN3082
  - UN Proper Shipping Name: Environmentally hazardous substances, Liquid, N.O.S.
  - Transport Hazard Class: Miscellaneous Dangerous Substances / Class 9
  - Packing Group: III

**Air Transport (IATA):**
- Not Regulated
  - UN Number: None
  - UN Proper Shipping Name: None
  - Transport Hazard Class: None
  - Packing Group: None

**Environmental Hazards (e.g., Marine pollutant):**
- Contains organosilane

Section 15. Regulatory Information

**International Inventories:**
- TSCA (USA): Listed
- DSL (Canada): Listed
- ENCS (Japan): Listed
- REACH (Europe): No information available
- 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(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: 3
  - Flammability: 1
  - Physical Hazard: 0
  - Personal Protection Equipment: X

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

Date Prepared ....................... May 14, 2015
Prepared By .......................... Advanced Polymer, Inc.
Date Revised .......................... December 29, 2016
Revised By ............................. Advanced Polymer, Inc.

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