



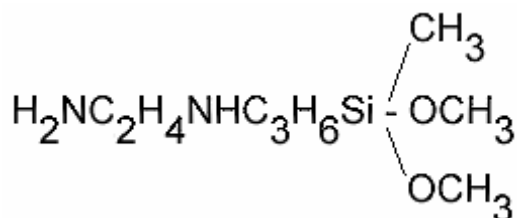
**ADVANCED POLYMER, INC.**

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## AP-SILANE 31

AP-SILANE 31 is a N-β(aminoethyl)-γ-propyl-methylmethoxy silane coupling agent. AP-SILANE 31 has both organic and inorganic reactivity. Its unique functionality enables AP-SILANE 31 to provide increased strength and adhesion in a variety of applications.

### CHEMICAL STRUCTURE



### CHARACTERISTICS

- Improved adhesion.
- Increased composite wet and dry tensile and modulus.
- Increased flexural strength.
- Increased wet and dry compressive strength.

### APPLICATION

AP-SILANE 31 is recommended for epoxy, phenolic and melamine resins.

### PACKAGING

AP-SILANE 31 is available in 4 oz. samples and 441-lb. drums.

### TYPICAL PROPERTIES

Appearance:	Clear liquid
Ionic Nature:	Nonionic
Molecular Weight:	190.3
Specific Gravity (@ 25°C):	0.90
Purity:	>98.0%
Refractive Index (@ 25°C):	1.397
Minimum Coverage Area:	410 m <sup>2</sup> /g

### Advanced Polymer, Inc.

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**I want to know more!**

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Revised October 27, 2009

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## AP-SILANE 31

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### Section I Product Identity

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Product Name: AP-SILANE 31  
Chemical Name/Family: N- $\beta$ (aminoethyl)- $\gamma$ -propyl-methyldimethoxy silane  
CAS Registry: #3069-29-2  
24 Hour Emergency Number 800-424-9300  
24 Hour Chemtrec Number 800-424-9300

All ingredients are listed in EPA's TSCA list of chemical substances

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### Section II Hazardous Components/Composition Information

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CHEMICAL N- $\beta$ (aminoethyl)- $\gamma$ -propyl-methyldimethoxy silane  
CAS # 3069-29-2  
USOS  
TWA  
STEL  
PERCENT >98

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### Section III Physical and Chemical Properties

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Boiling Point 453°F  
Specific Gravity (H<sub>2</sub>O=1) 0.97  
Vapor Pressure <0.1  
Vapor Density (Air=1) >1  
Percent Volatile By Weight 100%  
Evaporation Rate (BuAc=1) <1  
Solubility in Water Soluble  
Appearance and Odor Light straw, transparent with slight amine odor.

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### Section IV Fire and Explosion Hazard Data

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Flash Point (Method Used) 230°F (Open Cup)  
Flammable Limits in Air (% By Volume) N.D.  
Extinguishing Media Foam, Dry Chemical, CO<sub>2</sub>  
Special Fire Fighting Procedures Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment  
Unusual Fire and Explosion Hazard Combustion can produce nitrogen oxides, toxic and corrosive gasses.

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## Section V Reactivity Data

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Stability	Stable
Conditions to Avoid	Store in a well-ventilated place at temperatures below 120°F. Keep container tightly closed. Keep from freezing
Incompatibilities	Will hydrolyze with water, but no hazard. Avoid contact with strong oxidizing agents and acids.
Hazardous Decomposition or By Products	Combustion may produce CO <sub>2</sub> , CO and ethanol (flammable liquid)
Hazardous Polymerization	May Not Occur

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## Section VI Health hazard Data

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Primary Routes of Entry	Inhalation: No	Dermal: Yes	Ingestion: Yes
Acute Health hazard	LD50 (oral/rat) 2.02—2.43 ml/kg		
Chronic Health Hazard	No information available		
Carcinogenicity			
NTP: No	IARC Monograph: No	OSHA Regulated: No	

### Signs and Symptoms of Exposure:

Skin Contact	Brief contact may cause slight irritation. Prolonged and repeated contact with skin causes chemical burns with discomfort or pain.
Eye Contact	Causes severe irritation, experienced as discomfort or pain. Corneal injury may be severe and if not treated promptly could result in permanent impairment of vision
Ingestion	Although ingestion is unlikely, liquid may irritate upper digestive tract if swallowed. May cause severe irritation.
Inhalation	May cause severe irritation.

### Medical Condition Generally Aggravated by Exposure

### Emergency First Aid Procedures

Eyes	Immediately flush eyes with plenty of water. Call a physician.
Skin	Immediately wash skin with soap and water. Wash contaminated clothing before reuse.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
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.

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## Section VII Precautions for Safe Handling and Use

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Steps to be Taken in Case the Material is Released or Spilled:

Turn off ignition sources. Soak up with sand, oil dry or other absorbent material.

Waste Disposal Method As in accordance with EPA and local regulations.

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## Section VIII Special Precautions

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Precautions to be Taken in Handling and Storage:

Store in a well-ventilated place at temperatures below 120°F. Keep container tightly closed. Keep from freezing \*\*\* Agitate contents of container before using \*\*\*

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**Section IX Control Measures**

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Respiratory Protection:	Ventilation	Local exhaust Mechanical Special Other	Recommended Adequate ventilation system
Eye Protection:	Safety glasses should be worn		
Protective Gloves:	Rubber or plastic gloves should be worn		
Protective Clothing:	Rubber apron		
Other Protective Equipment:	Eye wash equipment and safety shower should be available. NIOSH approved respirator as needed		
Other Precautions:	Wash hands after use.		

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**Section X SARA Title III**

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**SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following toxic chemicals subject to the reporting requirements of SECTION 331 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 and of 40 CFR 371

CAS #

Chemical Name                      None

Percent by Weight                  None

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS'S THAT ARE DCOPIED AND DISTRIBUTED FOR THIS MATERIAL

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**Section XI Transportation Information**

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**SHIPPING INFORMATION**

PRODUCT NAME	AP-Silane 31
DOT PROPER SHIPPING NAME	Corrosive Liquid NOS (contains N-β(aminoethyl)-γ-propyl-methyldimethoxy silane CAS#3069-29-2)
HAZARD CLASS	8
UN NUMBER	UN1760
PACKING GROUP	III
LABEL REQUIREMENTS	Corrosive

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**Hazard Ratings**

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Health	3
Flammability	1
Reactivity	2
PPI	X (personal protection rating to be supplied by user depending on conditions)

Date Prepared ..... October 18, 2005

Prepared By ..... API

Date Revised ..... October 24, 2009

Revised By ..... API

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