SPECIALTY COATING SYSTEMS™

Safety Data Sheet

In accordance with the Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)).

SECTION 1.
IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Substance identifier

Substance Name	**A-174 SILANE**
Other Names (if available)	(Gamma-Methacryloxypropyltrimethoxysilane)

1.2 Details of the supplier of the safety data sheet

Distributor	Specialty Coating Systems, Inc. 7645 Woodland Drive, Indianapolis, IN 46278 +1- 317-244-1200
Competent Person Responsible for the Safety Data Sheet	Dr. Rakesh Kumar Specialty Coating Systems 7645 Woodland Drive, Indianapolis, IN 46278 +1- 317-244-1200 e-mail: rkumar@scscoatings.com

1.4. Emergency elephone number

Locatoin	ChemTel Telephone Number: 1-800-255-3924 International Number: +01-813-248-0585 (24 hours a day/7 days a week) Contract Number: MIS4118132

SECTION 2.
HAZARDS IDENTIFICATION

2.1 Classification of the substance

Classification of the substance in accordance with the Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)).

Classification	Class code and hazard category	Signal Word	Hazard statement
Skin Sensitization	Category 1	Warning	H317 May Cause an allergic skin reaction

Hazard Pictogram


Precautionary Statements	
General	Not applicable
Prevention	Wear protective gloves
	Avoid breathing vapor
	Contaminated work clothing should not be allowed out of the workplace
Reponse	IF ON SKIN:
	Wash with plenty of soap and water
	Wash contaminated clothing before reuse
	If skin irritation or rash occurs: Get medical attention
Storage	Not applicable
Disposal	P501 Dispose of contents and container in accordance with all local, regional, national and international regulations
Other hazards which do not result in classification	Additional methanol may be formed by reaction with moisture

See also sections from 9 to 12

SECTION 3.
COMPOSITION/INFORMATION ON INGREDIENTS

Description

Substance/mixture	Substance	
Chemical name	Gamma-Methacryloxypropyltrimethoxysilane	
CAS number	2530-85-0	
EC number	Not available	
Hazardous Ingredients	**% by weight**	**CAS number**
3-Trimethoxysilylpropyl methacrylate	70-100	2530-85-0
4-Methoxy-Phenol	0.1-1	150-76-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

SECTION 4.
FIRST AID MEASURES

4.1 Description of the first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove victim to fresh air and keep at rest in a

	position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Note to physician: Product may hydrolyse upon contact with body fluids in the gastrointestinal tract to produce additional methanol; therefore consider the signs/symptoms of methanol poisoning and also observe the known latency period of several days.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary.

Notes to physician	Treat symptomatically Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment
Protection of first aid personnel	No actions shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5.
FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Use dry chemical, CO2, alcohol-resistant foam or water spray (fog)
Unsuitable extinguishing media	Water jet

5.2 Special hazards arising from the mixture

In a fire or if heated, a pressure increase will occur and the container may burst	
Hazardous thermal decomposition products	Decomposition products may include the following materials: -carbon Dioxide -carbon Monoxide -metal oxide/oxides
Measurements at temperatures above 150 °C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.	

5.3 Advice for firefighters

Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or

	without suitable training. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Special protective equipment for firefighters	Firefighters must wear NIOH/MSHA approved positive pressure self-contained breathing apparatus with full facemask and full protective clothing.

SECTION 6.
ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and colelct spillage with non-combustible, absorbent material e.g. sand, earth. Vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 of SDS for emergency contact information and Section 13 of SDS for waste disposal.

SECTION 7.
HANDLING AND STORAGE

7.1. Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

7.2. Condition for safe storage including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8.
EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredient Name	Exposure Limits
4-Methoxy-Phenol	**OSHA PEL 1989 Vacated (1989-03-01)** Time Weighted Average (TWA) 5 mg/m3 **NIOSH REL (1994-06-01)** Time Weighted Average (TWA) 5 mg/m3 **ACGIH TLV (1994-09-01)** Time Weighted Average (TWA) 5 mg/m3

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

8.2.2. Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

8.2.3. Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

8.2.4. Skin protection

Hand Protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134). Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9.
PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Color	Light Yellow
Odor	Ester-like
Odor threshold	Not available
pH	Not available
Melting point	-48°C (54.40-° F)
Boiling point	255°C (491.00 ° F)
Flash point	108 °C (226.40 °F) (Tag Closed Cup)
Burning time	Not available
Burning rate	Not available
Evaporation rate	<1 (n-Butyl acetate= 1)
Flammability (solid, gas)	Not available
Lower and upper explosive (flammable) limits	Lower: Not available Upper: Not available
Vapor pressure	< 1.33 hPa @ 20 °C (68.00 °F)
Vapor density	> 1 [Air = 1]
Relative density	1.045 @ 25 °C (77.00 °F)
Density	1.0450 g/cm3
Solubility	Not available
Solubility in water	Reactive
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
SADT	Not available

Viscosity	Dynamic: Not available Kinematic: Not available
Other information	No additional information

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Under normal contidions of storage and use, hazardous reactions will not occur

10.4. Condition to avoid

No specific data

10.5. Incompatible materials

Peroxides, metal salts or oxidizing agents which may cause exothermic polymerization or degradation of the product.
Reacts with water or moisture to form: Methanol

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced; possible products of thermal decomposition include carbon oxides and oxides of silicon.

SECTION 11. INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
A-174 silane				
	LD50 Oral	Rat	> 2,000 mg/kg	-
	LD50 Dermal	Rat	>2,000 mg/kg	-

Conclusion/Summary: Not determined

Irritation/Corrosion	
Skin	Not determined
Eyes	Not determined
Respiratory	Not determined

Sensitization	
Skin	Not determined
Respiratory	Not determined

Mutagenicity	Not determined

Carinogenicity	Not determined

Reproductive Toxicity	Not determined

Teratogenicity	Not determined

Specific Target Organ Toxicity (STOT)-single exposure	Not available
Specific Target Organ Toxicity (STOT)- repeated exposure	Not available
Aspiration hazards	Not available
Information on the likely routes of exposure	Not available

Potential acute health effects	
Eye contact	No known significant effects or critical hazards
Inhalation	No known significant effects or critical hazards
Skin contact	May cause an allergic skin reaction
Ingestion	May be harmful if swallowed

Symptoms related to the physical, chemical, and toxicological characteristics	
Eye contact	No specific data
Inhalation	No specific data
Skin contact	Adverse symptoms may include the following: Irritation redness
Ingestion	No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure	
Short term exposure	
Potential immediate effects	Not available
Potential delayed effects	Not available
Long term exposure	
Potential immediate effects	Not available
Potential delayed effects	Not available
Potential chronic health effects	
Conclusion/Summary	Not determined
General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels
Carcinogenicity	No known significant effects or critical hazards
Mutagenicity	No known significant effects or critical hazards
Teratogenicity	No known significant effects or critical hazards
Developmental effects	No known significant effects or critical hazards

Fertility effects	No known significant effects or critical hazards

SECTION 12
ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Not available

12.2. Persistence and degradability

Not available

12.3. Bioaccumulative potential

Product/ingredient name	Species	Exposure	LogPow	BCF	Potential
3-Trimethoxysilylpropyl methacrylate			2.1	-	low
4-Methoxy-Phenol			1.58	-	Low

12.4. Mobility in soil

Soil/water partition coefficient (KOC)	Not available
Other adverse effects	No known significant effects or critical hazards

SECTION 13.
DISPOSAL CONSIDERATION

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. See Section 8 for information on appropriate personal protective equipment.

SECTION 14.
TRANSPORT INFORMATION

Special precautions for user	This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

SECTION 15.
REGULATORY INFORMATION

United States	
U.S. Federal regulations	**United States - TSCA 12(b)**

	Chemical export notification: None required. **United States - TSCA 5(a)2** **Final significant new use rules:** Not listed **United States - TSCA 5(a)2** **Proposed significant new use rules:** Not listed **United States - TSCA 5(e)** **Substances consent order:** Not listed
SARA 311/312	
Classification	Immediate (acute) health hazard
California Prop. 65	WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.
Canada	
WHMIS (Canada)	Class D-2A: Material causing other toxic effects (Very toxic) Class D-2B: Material causing other toxic effects (Toxic).
International regulations	
International lists	**Australia inventory (AICS):** All components are listed or exempted **Japan inventory:** All components are listed or exempted **China inventory (IECSC):** All components are listed or exempted **Korea inventory:** All components are listed or exempted **Canada inventory:** All components are listed or exempted **Philippines inventory (PICCS):** All components are listed or exempted **United States inventory (TSCA 8b):** All components are listed or exempted **Taiwan inventory (CSNN):** All components are listed or exempted

SECTION 16.
OTHER INFORMATION

Material Information System III (U.S.A.) :

Health	2
Flammability	1
Physical hazards	1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Full text of abbreviated H statements	Not applicable

History	
Date of issue/Date of revision	07/13/2016

Version	2.0 – Change of Emergency Telephone Number
Date of previous issue	06/01/2015
Version	1.0
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations
References	Not available

DISCLAIMER

This document aims to provide guidance for appropriate handling and precaution of use of this product by qualified personnel or operating under the supervision of personnel trained in handling chemicals. The product is intended for industrial use only. The provider of this document can not provide any warnings about the dangers of use or interaction with other chemicals or materials. Specialty Coating Systems, Inc. assumes no responsibility for the user's safe use of this product, the product suitability for the purpose for which it is applied and/or proper disposal. Information mentioned in this document should not be considered a declaration or guarantee, either expressed or implied, of merchantability, fitness for a particular purpose, quality, or any other. The information contained in this SDS is in accordance with the Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)).