

Silquest™ A-172 silane

SAFETY DATA SHEET

1. Identification

Product identifier: Silquest™ A-172 silane

Other means of identification

Synonyms: Vinyltris(2-methoxyethoxy)silane

Recommended use and restriction on use

Recommended use: Industrial use

Restrictions on use: None known.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials USA LLC
2750 Balltown Road,
Niskayuna, NY 12309

Contact person : commercial.services@momentive.com

Telephone : General information
+1-800-295-2392

Emergency telephone number
Supplier : CHEMTREC
1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 4

Health Hazards

Toxic to reproduction Category 1B

Label Elements

Hazard Symbol:



Signal Word: Danger

Silquest™ A-172 silane

Hazard Statement: H227; Combustible liquid.
 H360FD; May damage fertility. May damage the unborn child.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

Response: IF exposed or concerned: Get medical advice/attention. In case of fire: Use alcohol resistant foam for extinction.

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

Disposal: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Substance(s) formed under the conditions of use: Reacts with water or moisture to form methanol

3. Composition/information on ingredients

Substances

Chemical Identity	CAS number	Content in percent (%)*
Vinyltris(2-methoxyethoxy)silane	1067-53-4	50 - <100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition information of impurities and stabilizers

Chemical Identity	CAS number	Content in percent (%)*
Poly(tris(2-methoxyethoxy)vinylsilane)	59688-36-7	0.3 - <1%
Related Silane Esters		0.3 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Silquest™ A-172 silane

General information:	Move into fresh air and keep at rest. Get medical attention immediately.
Ingestion:	If conscious, drink plenty of water. Do not induce vomiting. Call a physician or poison control center immediately.
Inhalation:	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen. Call a physician or poison control center immediately.
Skin Contact:	Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Continue to rinse for at least 15 minutes. Get medical attention. Wash contaminated clothing before reuse. After contact with skin, remove product mechanically.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Product may hydrolyse on contact with moisture and upon contact with bodily fluids to produce methanol, which is readily and rapidly absorbed at all exposure routes and is toxic by all routes. Therefore, consider the signs/symptoms of methanol poisoning and also observe the known latency period of several days.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treatment is symptomatic and supportive.

5. Fire-fighting measures

General Fire Hazards: Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: All standard extinguishing agents are suitable.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Silquest™ A-172 silane

Specific hazards arising from the chemical: In case of fire, carbon monoxide and carbon dioxide may be formed. Acute overexposure to the products of combustion may result in irritation of the respiratory tract. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Caution: Contaminated surfaces may be slippery. Avoid contact with skin and eyes. See Section 8 of the SDS for Personal Protective Equipment. Keep out of reach of children.

Methods and material for containment and cleaning up: Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

Environmental Precautions: Do not allow runoff to sewer, waterway or ground.

7. Handling and storage

Precautions for safe handling: Sensitivity to static discharge is not expected. Do not taste or swallow. Do not get in eyes, on skin, on clothing. Use personal protective equipment as required. Wash hands after handling.

Conditions for safe storage, including any incompatibilities: Keep container closed. Keep away from sources of ignition - No smoking. Use original container or packaging of similar material of construction

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Provide eyewash station and safety shower. General (mechanical) room ventilation is expected to be satisfactory if handled at low temperatures or in covered equipment. Provide adequate ventilation if fumes or vapors are generated.

Silquest™ A-172 silane

Individual protection measures, such as personal protective equipment

General information:	General (mechanical) room ventilation is expected to be satisfactory if handled at low temperatures or in covered equipment.
Eye/face protection:	Safety glasses with side shields Use face shield in case of splash risk.
Skin Protection	
Hand Protection:	Use chemical-resistant, impervious gloves.
Other:	Safety shoes Wear suitable protective clothing.
Respiratory Protection:	If inhalation exposure is expected, 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).
Hygiene measures:	Avoid contact with eyes. When using do not smoke. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	ester like
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	< -70 °C
Initial boiling point and boiling range :	285 °C (1,013 hPa)
Flash Point:	92 °C (Tagliabue Closed Cup)
Evaporation rate:	< 1
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Heat of combustion:	No data available.
Vapor pressure:	< 6.65 hPa (20 °C)
Vapor density:	> 1
Density:	1.0400 g/cm ³ (25 °C)
Relative density:	No data available.
Solubility(ies)	

Silquest™ A-172 silane

Solubility in water:	Reactive.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	0.3
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	2.3 mPa·s (25 °C)
Viscosity, kinematic:	No data available.
Other information	
Explosive properties:	Not classified
VOC:	; No data available.

10. Stability and reactivity

Reactivity:	No dangerous reaction if used as recommended.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Moisture. Sunlight. High Temperatures Keep away from heat, sparks and open flame.
Incompatible Materials:	Moisture.
Hazardous Decomposition Products:	In case of fire, gives off (emits): Carbon oxides Oxides of silicon. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.

11. Toxicological information

General information: Product may hydrolyze upon contact with body fluids in the gastrointestinal tract to produce additional methanol. The potential for toxic effects due to methanol formation (eye damage and blindness, metabolic acidosis, dizziness and drowsiness, fetal toxicity, and liver, kidney, and heart muscle damage) should be recognized.

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.

Silquest™ A-172 silane

Eye contact: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 2,040.82 mg/kg

Specified substance(s):

Vinyltris(2-methoxyethoxy)silane LD 50 (Rat, male and female): > 2,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: Bühler-Patch-Test skin sensitisation on guinea pigs, OECD-Guideline 406 (Skin Sensitisation) (Guinea Pig): Non sensitizing.

Carcinogenicity

Product: No data available.

Silquest™ A-172 silane

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)
Chromosomal aberration (OECD 473): negative (not mutagenic)
Cell Transformation (OECD 476): negative (not mutagenic)

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No adverse effects anticipated from available information. Repeated exposure to 2-Methoxyethanol may cause injury to bone marrow and blood cells, kidneys, liver, and testes. Reproductive toxicity was observed in rats exposed orally to 250 or 750 mg/kg/day of vinyl tris 2-methoxyethoxysilane prior to mating and during gestation. Effects included reduced litter size and postnatal pup survival during the first 4 days after birth. No adverse effects were observed at 25 mg/kg/day

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC50 : 1,050 mg/l

Silquest™ A-172 silane

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 0.3 20 °C

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Vinyltris(2-methoxyethoxy)silane No data available.

Poly(tris(2-methoxyethoxy)vinylsilane) No data available.

Related Silane Esters No data available.

Other adverse effects: No data available.

Silquest™ A-172 silane

13. Disposal considerations

General information:	See Section 8 for information on appropriate personal protective equipment. The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground.
Disposal instructions:	Disposal should be made in accordance with federal, state and local regulations.
Contaminated Packaging:	Dispose of as unused product.

14. Transport information

DOT

UN number or ID number:	NA 1993
UN Proper Shipping Name:	Combustible liquid, n.o.s.(2-Methoxyethanol)
Transport Hazard Class(es)	
Class:	CBL
Label(s):	NONE
Packing Group:	III
Marine Pollutant:	No

IMDG

Not regulated.

IATA

Not regulated.

Special precautions for user:	This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons. The product is not regulated for transport by the IATA, ADR/RID, ADNR or the IMDG regulations.
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15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

<u>Chemical Identity</u> 2-Methoxyethanol	Listed.
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Silquest™ A-172 silane

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

Chemical Identity

Vinyltris(2-methoxyethoxy)silane

OSHA hazard(s)

Causes mild skin irritation.; Systemic effects

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids)

Reproductive toxicity

Hazards Not Otherwise Classified (HNOC)

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity

Threshold Planning Quantity

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING: This product can expose you to chemicals including 2-Methoxyethanol, Toluene, Methanol, which is [are] known to the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Vinyltris(2-methoxyethoxy)silane

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

Silquest™ A-172 silane

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Silquest™ A-172 silane

Inventory Status:

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	On or in compliance with the inventory	Remarks: None.
EINECS, ELINCS or NLP:	On or in compliance with the inventory	Remarks: None.
Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
Philippines PICCS:	On or in compliance with the inventory	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: Commercial Status: Active
New Zealand Inventory of Chemicals:	On or in compliance with the inventory	Remarks: None.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory	Remarks: None.
REACH:	If purchased from Momentive Performance Materials GmbH in Leverkusen, Germany, all substances in this product have been registered by Momentive Performance Materials GmbH or upstream in our supply chain or are exempt from registration under Regulation (EC) No 1907/2006 (REACH). For polymers, this includes the constituent monomers and other reactants.	Remarks: None.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	1
Flammability		2
Physical Hazards		1
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Silquest™ A-172 silane

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Revision Date: No data available.
Version #: 5.0
Further Information: No data available.
Disclaimer:

Notice to reader

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Further Information

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