

# SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

Silquest\* PA-826 organosilicon

## Section 1. Product and company identification

**Product name** : Silquest\* PA-826 organosilicon  
**Chemical name** : Vinyl Modified Polydimethylsiloxane

**Manufacturer/Importer/Distributor Information** : Momentive Performance Materials - Sistersville  
10851 Energy Highway  
FRIENDLY WV 26146

**Contact person** : commercial.services@momentive.com

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

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

## Section 2. Hazards identification

**Classification of the substance or mixture** : TOXIC TO REPRODUCTION - Category 2

### GHS label elements

**Hazard pictograms** : 

**Signal word** : Warning

**Hazard statements** : H361F Suspected of damaging fertility.

### Precautionary statements

**General** : Not applicable.

**Prevention** : Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Use personal protective equipment as required.

**Response** : IF exposed or concerned:  
Get medical attention.

**Storage** : Store locked up.

**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** : None known.

### Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Chemical name** : Not available

Hazardous ingredients	% by weight	CAS number
Octamethylcyclotetrasiloxane	0.1 - 1	556-67-2

**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

**Description of necessary 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.
- 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 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. 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. 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.

**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 action 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).  
**Unsuitable extinguishing media** : water jet

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : 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 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 fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

## Section 6. Accidental release measures

### 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 specialised 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).

### 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 collect 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

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see section 8 of SDS). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not ingest. Avoid contact with eyes, skin and clothing. 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.
- Conditions 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. Store locked up. 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

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Octamethylcyclotetrasiloxane	( ) Recommended exposure limit (REL): 5 ppm

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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.

### 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. 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.
- 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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. 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

### Appearance

- Physical state** : Viscous Liquid
- Color** : colorless.
- Odor** : Mild.
- Odor threshold** : Not available
- pH** : Not available
- Melting point** : < -25 °C (13.00- °F)
- Boiling point** : 200 °C (392.00 °F) Pungent
- Flash point** : 213 °C (415.40 °F) (ASTM D 93)
- Burning time** : Not available
- Burning rate** : Not available

Evaporation rate	:	1
Flammability (solid, gas)	:	Not available
Lower and upper explosive (flammable) limits	:	<b>Lower:</b> Not available <b>Upper:</b> Not available
Vapor pressure	:	< 1.3 hPa @ 20 °C (68.00 °F)
Vapor density	:	Greater than 1 [Air = 1]
Relative density	:	0.98
Density	:	0.97 g/cm <sup>3</sup>
Solubility	:	Not available
Solubility in water	:	Not available
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	<b>Dynamic:</b> Not available <b>Kinematic:</b> Not available

**Other information**

No additional information.

## Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane				
	LD50 Oral	Rat	4,800 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)	-
	LC50 Inhalation	Rat	> 12.1 mg/l	4 h
	LC50 Inhalation	Rat	36 mg/l OECD Test Guideline 403	4 h

	LD50 Dermal	Rat	> 2,400 mg/kg OECD Test Guideline 402	-
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**Conclusion/Summary** : Not determined

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Octamethylcyclotetrasiloxane	Skin OECD- Guideline 404 (Acute Dermal Irritation/C orrosion)	Rat			-
<b>Remarks:</b>		Non-irritating to the skin.			
	eyes OECD- Guideline 405 (Acute Eye Irritation/C orrosion)	Rabbit			-
<b>Remarks:</b>		Non-irritating to the eyes.			

**Conclusion/Summary**

**Skin** : Not determined  
**eyes** : Not determined  
**Respiratory** : Not determined

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
Octamethylcyclotetrasiloxane	-	Guinea pig	Not sensitizing OECD- Guideline 406 (Skin Sensitisation)

**Conclusion/Summary**

**Skin** : Not determined  
**Respiratory** : Not determined

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
Octamethylcyclotetrasiloxane	OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)	In vitro	Negative
	Mouse Lymphoma Assay (OECD Guidline 476)	In vitro	Negative
	OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)	In vivo	Negative

**Conclusion/Summary** : Not determined

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	Inhalation - OECD 453	Rat - Female	150 mg/kg	24 months

<b>Remarks:</b>	NOAEC			
	Inhalation - OECD 453	Rat - Male	> 700 mg/kg	24 months
<b>Remarks:</b>	NOAEC			

**Conclusion/Summary** : Not determined

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	-	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
<b>Remarks:</b>	NOAEL parents					
	-	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
<b>Remarks:</b>	NOAEL F1					

**Conclusion/Summary** : Not determined

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	- Inhalation OECD Test Guideline 414	Rabbit	500 mg/kg	18 days
<b>Remarks:</b>	NOAEL			
	- Inhalation OECD Test Guideline 414	Rabbit	300 mg/kg	18 days
<b>Remarks:</b>	NOAEL maternity			

**Conclusion/Summary** : Not determined

### Specific target organ toxicity (single exposure)

Not available

### Specific target organ toxicity (repeated exposure)

Not available

### Aspiration hazard

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** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.  
**Inhalation** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations



- Skin contact** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**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**

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	NOAEC Inhalation	Rat	150 mg/kg OECD 453	24 months
<b>Remarks:</b>	NOAEC			
	NOAEL Dermal	Rabbit	> 1 mg/kg OECD 410	3 weeks
<b>Remarks:</b>	NOAEL			

**Conclusion/Summary** : Not determined

- General** : No known significant effects or critical hazards.
- 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** : Suspected of damaging fertility.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Not available

**Other information**

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day,14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing

laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

## Section 12. Ecological information

### Ecotoxicity

**Conclusion/Summary** : Not available

### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
octamethylcyclotetrasiloxane	310 Ready Biodegradability - CO <sub>2</sub> in Sealed Vessels (Headspace Test)	3.7 % - 29 d		Activated sludge
<b>Remarks:</b>	Not readily biodegradable.			

**Conclusion/Summary** : Not available

### Bioaccumulative potential

Product/ingredient name	Species	Exposure	LogPow	BCF	Potential
Octamethylcyclotetrasiloxane	Fathead minnow	28 d		12.40	low

### Mobility in soil

**Soil/water partition coefficient (KOC)** : Not available

**Other adverse effects** : No known significant effects or critical hazards.

### Other information

Octamethylcyclotetrasiloxane (D4) meets the current REACH Annex XIII criteria for PBT and vPvB. However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

## Section 13. Disposal considerations

- Disposal methods** : 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.

## 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** : Delayed (chronic) health hazard

- California Prop. 65:** : None required.

### Canada

- WHMIS (Canada)** : Class D-2A: Material causing other toxic effects (Very toxic).

### International regulations

- International lists** : **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):** At least one component is not listed.

**Section 16. Other information**

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

<b>Health</b>	1
<b>Flammability</b>	1
<b>Physical hazards</b>	0

**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 printing :** 10/03/2016
- Date of issue/Date of revision :** 07/06/2015
- Date of previous issue :** 00/00/0000
- Version :** 1.0
- Prepared by :** Product Safety Stewardship
- 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

**Notice to reader**

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives. Keep out of the reach of children.

**Further Information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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