Safety Data Sheet

1. Product and Company Identification

Product Name: **Duralectric™ Adhesive 779-005**
Material Uses: Silicone Adhesive
(M)SDS#: 779-005-20220811
Validation Date: August-11-2022
Supplier/Manufacturer: Specialty Polymers & Services, Inc.
27822 Fremont Court
Valencia, CA 91355 USA
Tel: (661) 294-1790 or msds@spolymers.com

In case of emergency: Chemtrec (800) 424-9300 or (703) 527-3887

2. Hazards Identification

GHS CLASSIFICATION OF SUBSTANCE OR MIXTURE:

Reproductive Toxicity: Category 2, H361

GHS LABEL ELEMENTS:

HAZARD SYMBOLS:

SIGNAL WORDS: Warning!

HAZARD STATEMENTS:

H361 Suspected of damaging fertility or the unborn child.

PRECAUTIONARY STATEMENTS:

PREVENTION: P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/eye protection/face protection.

RESPONSE: P308+P313 IF exposed or concerned: Get medical attention.

STORAGE: P405 Keep locked up.

DISPOSAL: P501 Dispose of contents and containers in accordance with local, regional, and international regulations.

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – Annex III

See toxicological information (section 11)
General Information: Read entire MSDS for a more thorough evaluation of the hazards

3. Composition / Information on Ingredients

Name	CAS Number	%
Methyltrimethoxysilane	1185-55-3	5 – 8
Octamethyl Cyclotetrasiloxane	556-67-2	0.14 – 0.25
Methanol	67-56-1	0.1 – 0.18

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

4. First Aid Measures

Eye Contact:	Check for and remove any contact lenses. Immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Get medical attention if irritation persist.
Skin Contact:	In case of contact, wash affected areas with plenty of water, and soap, if available, for several minutes. Remove and clean contaminated clothing and shoes before re-use. Get medical attention if irritation occurs.
Inhalation:	Move exposed person to fresh air. If not breathing, give artificial respiration or oxygen. If breathing is difficult, transport to medical care and, if available, give supplemental oxygen. Loosen tight clothing such as a collar, tie, belt, or waistband. Get immediate medical attention.
Ingestion:	Wash out mouth with water. If swallowed dilute by giving two (2) glasses water to drink. Do not induce vomiting until direct to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Note to physician:	No specific treatment. Treat symptomatically. Call poison control center if large quantities were ingested. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants, and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral antitussives may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire-Fighting Measures

Flash point:	Not applicable
Hazardous Thermal Decomposition Products:	Decomposition products may include the following materials: combustion gases of carbon dioxide and carbon monoxide, silicon dioxide, other oxides, formaldehyde, and methanol. Exposure to combustion products may be a hazard to health.
Extinguishing Media:	Carbon dioxide, alcohol-resistant foam, dry chemical, water spray as suitable for the surrounding fire.
Special Exposure Hazards:	Promptly isolate the scene by removing all persons from the vicinity of the fire. No actions shall be taken involving any personal risk or without suitable training. This product contains silicone which is known to produce Formaldehyde when temperatures reach in excess of 150°C (300°F). Formaldehyde is a known skin, eye, and throat irritant, as well as a potential cancer hazard.
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. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. Accidental Release Measures

Personal Precautions:	No actions shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering area. Do not touch or walk through spilled material. Avoid breathing vapor or mist and provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Environmental Precautions:	Avoid dispersal of spilled material and runoff that leads to contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution. Retain and dispose of contaminated wash water.
Methods of Clean Up:	Stop leak if without risk. Move containers from spill area. Approach spill from up wind if possible. Prevent spill from entering sewers, rivers and other water courses, basements, or confined areas. Wash into 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. Dispose of only using a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information.

7. Handling and Storage

Handling: Wear appropriate personal protective equipment (see Section 8) when handling. Eating, drinking, and smoking should be prohibited in areas where chemicals are handled, stored, or processed. Do not get on skin or clothing. Avoid contact with eyes. Do not swallow. Take care to prevent spills, waste, and minimize release to the environment. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in processes where this material is used. Keep in the original container or a suitable alternate made from a compatible material. Keep all containers tightly closed when not in use. Empty containers retain product residue and should be disposed of properly. Do not reuse empty containers for other purposes or to hold other materials.

Storage: Store in accordance with local regulations. Store in original containers, at 15°C - 25°C. Keep away from incompatible materials (see Section 10) and food and drink. Keep all containers tightly closed when not in use and tightly re-seal after use. Store locked up. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls / Personal Protection

Methyltrimethoxysilane	Dow IHG – TWA: 7.5 ppm; further information: skin sensitizers
Octamethyl Cyclotetrasiloxane	US WEEL ACGIH – TWA: 10 ppm
Methanol	ACGIH – TWA: 200 ppm, further information: Skin: Danger of cutaneous ACGIH – STEL: 250 ppm OSHA Table Z-1 – TWA: 200 ppm / 260 mg/m^3 Biological occupational exposure limits: ACGIH BEI: 15 mg/l (End of shift (as soon as possible after exposure ceases) sampling of Urine)

Recommended Monitoring Procedures: If this product contains ingredients with exposure limits, personal, workplace, atmospheric, or biological monitoring may be required to determine the effectiveness of the ventilation system or other control measures and/or to determine whether it is necessary to use respiratory protective equipment. Consider European Standard EN 689 or similar industry or governmental guidelines for appropriate methods for the assessment of exposure by inhalation to chemical agents and/or hazardous substances.

Engineering measures: No special ventilation requirements are necessary for this product. 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 the recommended or statutory limits

Hygiene measures: Wash hands, forearms, and face thoroughly after handling any chemical products, before eating, smoking, and using the lavatory and at the end of the work period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated 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.

Personal Protection

Respiratory: A respiratory protection program in compliance with 29CFR1910.134, or other applicable regulatory standard must be followed whenever exposure limits may be exceeded. If engineering controls are not feasible, or if inadequate ventilation wear respiratory protection. 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.

Hands: Wear neoprene, nitrile rubber or other suitable impervious gloves; consider European Standard EN374 or similar industry or governmental guidelines. Consider the parameters specified by the glove manufacture and check gloves during use to ensure they are retaining their protective properties. Gloves selected must have a breakthrough rating appropriate for the work shift. If a risk assessment indicates that it is necessary, gloves should always be worn when handling chemical products.

Eyes: When a risk assessment indicates, safety eyewear complying with an approved standard, such as OSHA Standard 29CFR1910.133 or European Standard EN166, should be used to avoid exposure to liquid splashes, mists, or dusts. If contact is possible, at a minimum use chemical splash googles. If significant splash hazard may occur, consider using a full-face shield.

Skin: Personal Protective equipment for the body should be selected based on the task being performed and the risks involved. Typical protective equipment includes non-absorbent lab coats, disposable protective sleeves, coats, or whole-body suits. Consider CFR1910.132 and CFR1910.136 for OSHA

approved standards on protective clothing and footwear. Consider seeing a safety specialist to determine the appropriate level of protection for your task.

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

9. Physical and Chemical Properties

Appearance:	White translucent paste	Odor	Slight
Boiling Point:	Not determined	Freezing Point:	Not determined
Flash Point:	93°C (199°F) Setaflash	pH:	Not determined
Auto-ignition Temperature:	Not determined	Flammable Limits:	Not determined
Vapor Pressure:	Not determined	Water Solubility:	Not determined
Specific Gravity:	1.12	Vapor Density:	Not determined
Evaporation Rate:	Not determined	VOC:	Not determined
Viscosity:	Not determined		

10. Stability and Reactivity

Chemical Stability: This product is stable, under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous Polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid: Avoid high temperatures and exposure to oxidizing agents, acids, and bases.

Hazardous Decomposition: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition products may include the following materials: combustion gases of carbon dioxide and carbon monoxide, silicon dioxide, other oxides, formaldehyde, and methanol. Exposure to combustion products may be a hazard to health. This product contains silicone which is known to produce Formaldehyde when temperatures reach in excess of 150°C (300°F). Formaldehyde is a known skin, eye, and throat irritant, as well as a potential cancer hazard.

11. Toxicological Information

Acute Toxicity

Product/Ingredient Name	Test	Endpoint	Species	Result
Product	-	LD50 Oral	-	> 5,000 mg/kg
	-	LD50 Dermal	Rabbit – male & female	> 2,000 mg/kg
Methyltrimethoxysilane	-	LD50 Oral	Rat – male & female	11,685 mg/kg
	-	LD50 Dermal	Rabbit – male & female	> 9,500 mg/kg
	-	LC50 Inhalation vapor	Rat – male & female	> 7605 ppm (6h)
Octamethyl Cyclotetrasiloxane	-	LD50 Oral	Rat – male	> 4,800 mg/kg
	-	LD50 Dermal	Rat – male & female	> 2,400 mg/kg
	-	LC50 Inhalation dust/mist	Rat – male & female	36 mg/l (4h)
Methanol	-	LD50 Oral	Rat	> 5,000 mg/kg
	-	LD50 Oral	Human	340 mg/kg
	-	LD50 Dermal	Rabbit	15,800 mg/kg
	-	LC50 Inhalation vapor	Rat	3 mg/l (4h)

Irritation / Corrosion

Product/Ingredient Name	Test	Species	Result
Product	-	-	Eye and Skin Irritant
Methyltrimethoxysilane	-	-	Eye and Skin Irritant
Methanol	-	-	Eye and Skin Irritant

Sensitizer

Product/Ingredient Name	Test	Species	Result
Product	-	Guinea pigs	Not sensitizing to skin
Methyltrimethoxysilane	-	Guinea pigs	Sensitizing to skin

Mutagenicity

Product/Ingredient Name	Test	Result
Not available		

Conclusion/ Summary: the weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

No other component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC, NTP, or OSHA.

Reproductive Toxicity

Product/Ingredient Name	Test	Species	Maternal Toxicity	Fertility	Developmental Effects
Product	Suspected of damaging fertility or the unborn child				

Teratogenicity

Product/Ingredient Name	Test	Species	Results
Not available			

Potential Acute Health Effects

Inhalation: Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material may cause respiratory irritation.

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Skin Contact: May cause skin irritation. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Eye Contact: May cause slight temporary eye irritation. Corneal injury is unlikely.

Potential Chronic Health Effects

Product/Ingredient Name	Test	Endpoint	Species	Results
Methanol	Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.			

General: Once sensitized, an allergic reaction may occur when subsequently exposed to very low levels

Target Organs: Methanol causes damage to organs (Eyes, Central nervous system) with oral exposure

Carcinogenicity: No known significant effects or critical hazards

Mutagenicity: No known significant effects or critical hazards

Teratogenicity: Suspected of damaging fertility or the unborn child

Developmental Effects: Suspected of damaging fertility or the unborn child

Fertility Effects: Suspected of damaging fertility or the unborn child

12. Ecological Information

Environmental Effects: This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Aquatic Ecotoxicity

Product/Ingredient Name	Test	Endpoint	Exposure	Species	Result
Methyltrimethoxysilane	-	Acute LC50	96 hour	Fish	> 110 mg/l
	OECD Test Guideline 201	Acute ErC50	72 hour	Algae	> 3.6 mg/l
	OECD Test Guideline 202	Acute EC50	48 hour flow-through	Daphnia	> 122 mg/l
	OECD Test Guideline 209	Acute EC10	3 hour	Bacteria	> 100 mg/l
	-	Chronic NOEC	28 days	Daphnia	≥ 10 mg/l
Octamethyl Cyclotetrasiloxane	-	Acute LC50	96 hour flow-through	Fish	>0.022 mg/l
	-	Acute EC50	48 hours	Daphnia	> 0.0015 mg/l
		Acute ErC50	72 hours	Algae	>0.022 mg/l
		Chronic NOEC	93 days	Fish	≥ 0.0044 mg/l
		Chronic NOEC	21 days	Daphnia	≥ 0.0079 mg/l
Methanol	-	Acute LC50	96 hour flow-through	Fish	15,400 mg/l
	-	Acute LC50	48 hours	Daphnia	> 10,000 mg/l
	OECD Test Guideline 201	Acute ErC50	96 hour	Algae	22,000 mg/l
	OECD Test Guideline 209	Acute IC50	3 hour	Bacteria	> 1,000 mg/l
	-	Chronic NOEC	200 hours	Fish	15,800 mg/l

Persistence and Degradability

Product/Ingredient Name	Test	Period	Result
Methyltrimethoxysilane	Regulation (EC) No. 440/2008, Annex, C.4-A	28 days	54 %
Octamethyl Cyclotetrasiloxane	OECD Test Guideline 310	28 days	3.7 %

Product/Ingredient Name	Aquatic half-life	Photolysis	Biodegradability
Methyltrimethoxysilane	-	-	Not Readily Biodegradable
Octamethyl Cyclotetrasiloxane	-	-	Not Readily Biodegradable

Methanol	-	-	Readily Biodegradable

Bioaccumulative potential

Product/Ingredient Name	Log P_{ow}	BCF	Potential
Methyltrimethoxysilane	< 3	< 100	low
Octamethyl Cyclotetrasiloxane	6.49	12,400	high
Methanol	-0.77	< 10	low

Other adverse effects: No known significant effects or critical hazards

Other information: BOD5: Not determined COD: Not Determined TOC: Not determined

13. Disposal Consideration

Waste Disposal Method: Disposal of this products, solutions, and by-products should always comply with the requirements of environmental and waste disposal legislation and any regional or local authority requirements. Dispose of surplus, non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed on untreated to the sewer system unless this is complaint with all applicable laws and regulations. Incineration by an approved and licensed contractor is the most common disposal method. Packaging materials that and absorbents containing the product can typically be landfilled or incinerated. Contact local authorities to determine the proper means of disposal in your area.

14. Transport Information

Not regulated for transportation purposes under DOT, IATA, or IMDG standards

15. REGULATORY INFORMATION

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This product is a hazardous chemical under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA Title III: Section 304 - CERCLA: This product does not contain chemicals regulated under Section 304 as extremely hazardous substance(s) for emergency release notification ("CERCLA" List).

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS): Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any toxic chemicals for routine annual Toxic Chemical Release Reporting under section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All chemical(s) comprising this product are listed on the TSCA inventory.

TSCA Section 12(b) - Export Notification: This product does not contain chemicals which are subject to Section 12(b) export notification.

State Regulations:

California Proposition 65: ⚠ **WARNING:** This product can expose you to chemicals including Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

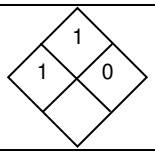
International Regulations:

WHMIS: Class D-2A: Material causing other toxic effects (Very Toxic)

16. OTHER INFORMATION

Hazardous Material Information System (HMIS) - USA	
Health	1
Flammability	1
Physical Hazards	0
Personal Protection	C*

National Fire Protection Association (USA):



*suggested minimum personal protection equipment. End user must determine appropriateness of these suggestions for their applications and usage conditions.

Reason Issued: update

Prepared by: P.White **Approved by:** **C. Meyer** Title: Vice President

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF PRODUCTS FOR THE USER'S PARTICULAR PURPOSE(S).

THIS PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.