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Material Safety Data Sheet

Version: 1.3
11/10/2007

TSE 3941 - cartg (310ml - 510g) SILICONE ELECTRONICS ADHESIVE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: Waterford Plant
260 Hudson River Rd
Waterford NY 12188

Revised: 11/10/2007

Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
CHEMTREC 1-800-424-9300

Chemical Family/Use: Sealant
Formula: Mixture

HMIS

Flammability: 1 Reactivity: 0 Health: 1

NFPA

Flammability: 1 Reactivity: 0 Health: 1

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! Irritating to eyes, respiratory system and skin. May be harmful if swallowed. May cause adverse reproductive effects. Adverse reproductive effects reported in animals.

Form: Liquid Color: White Odor: SLIGHT AMMONIA

POTENTIAL HEALTH EFFECTS

INGESTION

May be harmful if swallowed.

SKIN

May cause mild skin irritation.

INHALATION

Causes mild respiratory tract irritation. Applies in uncured state.

EYES

Eye irritation on contact with the uncured product.

MEDICAL CONDITIONS AGGRAVATED

None known.

SUBCHRONIC (TARGET ORGAN)

May cause liver effects.

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

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ROUTES OF EXPOSURE

Dermal; Eyes

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>PRODUCT COMPOSITION</u>	<u>CAS REG NO.</u>	<u>WGT. %</u>
<u>A. HAZARDOUS</u>		
Methyltrimethoxysilane	1185-55-3	1 - 5 %
CYCLOPENTYLSILAZANE- AMINOSILOXANE COPOLYMER, METHOXY TERMINATED	134759-20-9	1 - 5 %
<u>B. NON-HAZARDOUS</u>		
Titanium Dioxide	13463-67-7	10 - 30 %
Methoxypolydimethylsiloxane	68037-58-1	30 - 60 %

4. FIRST AID MEASURES

INGESTION

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN

To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water.

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

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5. FIRE-FIGHTING MEASURES

FLASH POINT: 132 °C; 270 °F
IGNITION TEMPERATURE: 450 °C; 842 °F
FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

SENSITIVITY TO MECHANICAL IMPACT: No

SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

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. Increase area ventilation.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Avoid contact with skin and eyes. Use only in well-ventilated areas. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation. Keep away from children.

STORAGE

Store away from heat, sources of ignition, and incompatibles.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Eyewash stations; Showers; Exhaust ventilation

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RESPIRATORY PROTECTION

If exposure limits may be exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. A NIOSH/MSHA approved respirator with an organic vapor cartridge is generally acceptable. Supplied airrespirators may be required for high vapor concentrations. Respiratory protection must be provided in accordance with OSHA regulations (see 29 CFR 1910.134).

PROTECTIVE GLOVES

Rubber or plastics gloves

EYE AND FACE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value
Titanium Dioxide	13463-67-7	ACGIH, TWA	10 mg/m3
Titanium Dioxide	13463-67-7	OSHA Z1, PEL	Total dust. 15 mg/m3
QUARTZ	14808-60-7	OSHA Z1, PEL	Respirable fraction. 5 mg/m3
QUARTZ	14808-60-7	OSHA Z1, PEL	Total dust. 15 mg/m3
QUARTZ	14808-60-7	ACGIH, TWA	Respirable fraction. 0.025 mg/m3

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT - C & F:	Not applicable
VAPOR PRESSURE (20 C) (MM HG):	Not applied
VAPOR DENSITY (AIR=1):	No data available
FREEZING POINT:	Not applicable
MELTING POINT:	Not applicable
PHYSICAL STATE:	Liquid
ODOR:	SLIGHT AMMONIA
COLOR:	White
EVAPORATION RATE (BUTYL ACETATE=1):	Unknown
SPECIFIC GRAVITY (WATER=1):	ca. 1.65
DENSITY:	1.65 g/cm3
ACID / ALKALINITY (MEQ/G):	Unknown
pH:	No data available
VOLATILE ORGANIC CONTENT (VOL):	Unknown

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**SOLUBILITY IN ORGANIC SOLVENT (STATE
SOLVENT):** Insoluble in water

10. STABILITY AND REACTIVITY

STABILITY

Stable

HAZARDOUS POLYMERIZATION

Will not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Carbon dioxide (CO₂); Carbon monoxide; Formaldehyde; Silicon dioxide.; Oxides of nitrogen.;
Methanol; Ammonia

INCOMPATIBILITY (MATERIALS TO AVOID)

None known.

CONDITIONS TO AVOID

None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL

Remarks: Unknown

ACUTE DERMAL

Remarks: Unknown

ACUTE INHALATION

Remarks: Unknown

OTHER

Octamethylcyclotetrasiloxane Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/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. 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 octamethylcyclotetrasiloxane (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

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found. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group. The relevance of these data to humans is unclear. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study., Contains dibutyltin compound(s) - May impair fertility. May cause harm to unborn child.

SENSITIZATION

No data available

SKIN IRRITATION

No data available

EYE IRRITATION

No data available

MUTAGENICITY

Unknown

OTHER EFFECTS OF OVEREXPOSURE

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive., Methanol released during curing., Ammonia released during curing.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

No data available

DISTRIBUTION

No data available

CHEMICAL FATE

No data available

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13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Further Information:

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

15. REGULATORY INFORMATION

Inventories

Japan Inventory of Existing & New Chemical Substances (ENCS)	y (Positive listing)	
Korea Existing Chemicals Inventory (KECI)	y (Positive listing)	
China Inventory of Existing Chemical Substances	y (Positive listing)	
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	y (Positive listing)	
TSCA list	y (Positive listing)	On TSCA Inventory
EU list of existing chemical substances	y (Positive listing)	
Canada DSL Inventory	q (quantity restricted)	
Canada NDSL Inventory	n (Negative listing)	
Australia Inventory of Chemical Substances (AICS)	n (Negative listing)	

For inventories that are marked as quantity restricted or special cases, please contact Momentive.

US Regulatory Information

SARA (311,312) HAZARD CLASS

Acute Health Hazard; Chronic Health Hazard

SARA (313) CHEMICALS

Canadian Regulatory Information

WHMIS HAZARD CLASS

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D2A VERY TOXIC MATERIALS, D2B TOXIC MATERIALS

CALIFORNIA PROPOSITION 65

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
14808-60-7, Quartz.

16. OTHER INFORMATION

OTHER

C = ceiling limit applicable NEGL = negligible EST = estimated NF = none found NA = not applicable
UNKN = unknown NE = none established REC = recommended ND = none determined
V = recommended by vendor SKN = skin TS = trade secret R = recommended
MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million
ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)., These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.