

## XIAMETER(R) RTV-3081-VF CURING AGENT

### 1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

<b>1.1</b>	<b>Product Name:</b>	XIAMETER(R) RTV-3081-VF CURING AGENT
<b>1.2</b>	<b>Manufacturer's Product Code:</b>	04107688
<b>1.3</b>	<b>Chemical Classification:</b>	Organotin compound
<b>1.4</b>	<b>Use:</b>	Silicone rubber curing agent Moldmaking
<b>1.5</b>	<b>Company Details:</b>	
	<b>Manufacturer/Supplier:</b>	Dow Corning (Thailand) Limited
	<b>Address:</b>	177/1 Bangkok Union Insurance Building, 17th Floor, Soi Anumarnrajthon 1, Surawong Road, Suriyawong, Bangrak, Bangkok 10500
	<b>Telephone Number:</b>	(+66) 2634 6700
	<b>Fax Number:</b>	(+66) 2634 6799
	<b>Emergency Telephone Number:</b>	(+65) 6542 9595 (24 hours)
	<b>Contact Person:</b>	EHS, QA, Production or Distribution Center Department Head

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**2.1 Chemical characterization:** Mixture  
**2.2 Hazardous Ingredients:**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>% (w/w)</u>	<u>Risk Phrases</u>
Tetraethyl orthosilicate	78-10-4	<10	Flammable. Harmful by inhalation. Irritating to eyes and respiratory system.
Methyl alcohol	67-56-1	<1	Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
Dimethyl tin di-neodecyl ester	68928-76-7	10 - <30	Harmful if swallowed. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of harm to the unborn child. May cause long-term adverse effects in the aquatic environment.
Methyltrimethoxysilane	1185-55-3	<10	Highly flammable. Harmful if swallowed. May cause sensitization by skin contact.

Classified as hazardous according to the Harmful Chemical Lists as defined in Clause 2 of Notification of Ministry of Interior, Re: Working Safety relating to harmful chemicals\* (\*Government Gazette Vol.108, Part 167, dated 24 September B.E. 2534) and European Commission Directive 1999/45/EC (Article 3[3]).

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#### 3. HAZARDS IDENTIFICATION

<b>3.1</b>	<b>Overall Hazard Classification:</b>	Flammable Toxic. Irritant.
<b>3.2</b>	<b>Hazard Information:</b>	Flammable. Harmful if swallowed. May cause sensitization by skin contact. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of harm to the unborn child.
<b>3.3</b>	<b>Precautionary Information:</b>	Do not breathe vapour. Take precautionary measures against static discharges. Wear suitable protective clothing, gloves and eye/face protection. In case of fire and/or explosion do not breathe fumes. Use only in well-ventilated areas.
<b>3.4</b>	<b>Signs and Symptoms of Overexposure:</b>	May cause harm after ingestion. May cause allergic reaction to skin after skin contact. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of harm to the unborn child.

#### 4. FIRST AID MEASURES

<b>4.1</b>	<b>Eyes:</b>	Immediately flush with water for 15 minutes.
<b>4.2</b>	<b>Skin:</b>	Remove from skin and immediately flush with water for 15 minutes. Get medical attention if irritation or ill effects develop or persist.
<b>4.3</b>	<b>Inhalation:</b>	Remove to fresh air. Get medical attention if ill effects persist.
<b>4.4</b>	<b>Ingestion:</b>	Get medical attention.
<b>4.5</b>	<b>Comments:</b>	Treat according to person's condition and specifics of exposure.
<b>4.6</b>	<b>Note to physicians:</b>	Treat symptomatically. For further information, the medical practitioner should refer to the phone numbers in Section 1.

#### 5. FIRE-FIGHTING MEASURES

<b>5.1</b>	<b>Hazardous Properties:</b>	Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.
<b>5.2</b>	<b>Extinguishing Media:</b>	On large fires use dry chemical or foam. On small fires use CO2 or dry chemical. Water can be used to cool fire exposed containers.
<b>5.3</b>	<b>Special Fire Fighting Procedures and Equipment:</b>	Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool. Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.
<b>5.4</b>	<b>Hazardous Combustion Products:</b>	Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Metal oxides.
<b>5.5</b>	<b>Unsuitable Extinguishing Media:</b>	Water. Do not allow extinguishing medium to contact container contents.

#### 6. ACCIDENTAL RELEASE MEASURES

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|---------------------------------------|--|
| <b>6.1 Personal Precautions:</b>      | Avoid skin and eye contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.  |
| <b>6.2 Environmental Precautions:</b> | Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. Inform local authorities if this cannot be prevented.   |
| <b>6.3 Methods for Cleaning up:</b>   | Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protective equipment recommendations described in this MSDS. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which laws and regulations are applicable. |

### 7. HANDLING AND STORAGE

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|--|---|
| <b>7.1 Handling Precautions:</b>           | Use with adequate ventilation. Product evolves flammable methyl alcohol when exposed to water or humid air. Provide ventilation during use to control methyl alcohol exposures within exposure guidelines or use air-supplied or self-contained breathing apparatus. Avoid skin and eye contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking. |
| <b>7.2 Storage Conditions:</b>             | Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame. Keep container closed and store away from water or moisture.   |
| <b>7.3 Unsuitable Packaging Materials:</b> | None established.   |

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 Industrial Hygiene Standards:**

<u>Ingredients</u>	<u>CAS No.</u>	<u>Exposure Limits</u>
Dimethyl tin di-neodecyl ester	68928-76-7	Thailand: TWA 0.1 mg/m3. Observe organic tin compounds limits. OSHA PEL and ACGIH TLV-skin: TWA 0.1 mg/m3; ACGIH STEL 0.2 mg/m3.
Methyltrimethoxysilane	1185-55-3	Dow Corning guide: TWA 50 ppm. Also see methyl alcohol comments.
Tetraethyl orthosilicate	78-10-4	OSHA PEL (final rule): TWA 100 ppm, 850 mg/m3. ACGIH TLV: TWA 10 ppm. Also see ethyl alcohol comments.

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Methyl alcohol	67-56-1	Thailand: TWA 200 ppm (260 mg/m <sup>3</sup> ). OSHA PEL (final rule): TWA 200 ppm, 260 mg/m <sup>3</sup> and ACGIH TLV-skin: TWA 200 ppm, STEL 250 ppm.
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Methyl alcohol forms on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 200 ppm and ACGIH TLV-skin: TWA 200 ppm, STEL 250 ppm. Ethyl alcohol is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule): TWA 1000 ppm and ACGIH TLV: STEL 1000 ppm.

### 8.2 Engineering Controls

**Local Ventilation:** Recommended.  
**General Ventilation:** Recommended.

### 8.3 Personal Protective Equipment for Routine Handling

**Respiratory protection:** Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

**Suitable Respirator:** Organic Vapor/Dust/Mist Type.

**Eye protection:** Use proper protection - safety glasses as a minimum.

**Hand protection:** Chemical protective gloves should be worn.

**Skin protection:** Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

**Hygiene Measures:** Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

### 8.4 Personal Protective Equipment for Spills

**Respiratory protection:** Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.

**Eye protection:** Use full face respirator.

**Skin protection:** Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

**Precautionary Measures:** Avoid skin and eye contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

**Comments:** Product evolves flammable methyl alcohol when exposed to water or humid air. Provide ventilation during use to control methyl alcohol exposures within exposure guidelines or use air-supplied or self-contained breathing apparatus.

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Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry ([www.SEHSC.com](http://www.SEHSC.com)) or contact the Dow Corning customer service group.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>9.1</b>	<b>Physical Form:</b>	Liquid
<b>9.2</b>	<b>Color:</b>	Clear to slightly hazy, colorless
<b>9.3</b>	<b>Odor:</b>	Some odor
<b>9.4</b>	<b>pH:</b>	Not determined.
<b>9.5</b>	<b>Solubility in Water:</b>	Not determined.
<b>9.6</b>	<b>Boiling Point:</b>	> 65 °C
<b>9.7</b>	<b>Melting Point:</b>	Not determined.
<b>9.8</b>	<b>Flash Point:</b>	25 °C (Seta Closed Cup)
<b>9.9</b>	<b>Autoignition temperature:</b>	Not determined.
<b>9.10</b>	<b>Explosive properties:</b>	No
<b>9.11</b>	<b>Oxidizing properties:</b>	No
<b>9.12</b>	<b>Vapor Pressure @ 25°C:</b>	Not determined.
<b>9.13</b>	<b>Specific Gravity:</b>	1.004
<b>9.14</b>	<b>Octanol/water partition coefficient:</b>	Not determined.
<b>9.15</b>	<b>Vapour Density (air=1):</b>	Not determined.
<b>9.16</b>	<b>Viscosity:</b>	30 mPa s
<b>9.17</b>	<b>Upper Flammability Limit:</b>	Not determined.
<b>9.18</b>	<b>Lower Flammability Limit:</b>	Not determined.

The above information is not intended for use in preparing product specifications.

### 10. STABILITY AND REACTIVITY

<b>10.1</b>	<b>Stability:</b>	Stable.
<b>10.2</b>	<b>Reactivity</b>	
	<b>Conditions to Avoid:</b>	None.
	<b>Materials to Avoid:</b>	Can react with strong oxidising agents. Water, moisture or humid air can cause hazardous vapors to form.
	<b>Hazardous Decomposition Products:</b>	Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds.
	<b>Hazardous Polymerization :</b>	Hazardous polymerization will not occur.

### 11. TOXICOLOGICAL INFORMATION

<b>11.1</b>	<b>Possible Health Effects:</b>	
	<b>Acute</b>	
	<b>Eyes:</b>	Direct contact may cause mild irritation.
	<b>Skin:</b>	May cause mild irritation.
	<b>Ingestion:</b>	Harmful by ingestion.
	<b>Inhalation:</b>	Vapor and/or mist may irritate nose and throat. Vapor overexposure may cause drowsiness.
	<b>Chronic</b>	
	<b>Skin:</b>	Repeated or prolonged exposure may irritate seriously. Repeated skin contact may cause allergic skin reaction.

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**Ingestion:** Product generates methyl alcohol which may cause blindness and possibly death if swallowed. Repeated ingestion or swallowing large amounts may injure internally.

**Inhalation:** Prolonged or repeated exposure by inhalation may injure internally. Product generates methyl alcohol which may cause blindness and damage to nervous system. Overexposure by inhalation may injure the following organ(s): Lungs. Liver. Kidneys.

**11.2 Sensitizing Effects:**

<u>Ingredients</u>	<u>CAS No.</u>	<u>% (w/w)</u>
Methyltrimethoxysilane	1185-55-3	<10

**11.3 Mutagenic Effects:** None known.

**11.4 Reproductive Effects:** None known.

**11.5 Carcinogenic Effects:** None known.

**11.6 Other Health Hazard Information:** Inhalation of fumes may result in metal fume fever, a flu-like illness with symptoms of metallic taste, fever and chills, aches, chest tightness, and cough.

The above listed potential effects of overexposure are based on actual data, the results of studies performed upon similar compositions, component data, and/or expert review of the products.

## 12. ECOLOGICAL INFORMATION

**12.1 Environmental Fate and Distribution:**

This product hydrolyses in water or wet soil, releasing alcohols and silicic acid.

**12.2 Environmental Effects:**

This product contains substances which may cause adverse effects in the aquatic environment.

**Bioaccumulation:** Organotin compounds can bioaccumulate.

**12.3 Fate and Effects in Waste Water Treatment Plants:**

Do not empty into drains. Adverse effects on bacteria. If used as intended this product is not expected to reach waste water treatment plants.

## 13. DISPOSAL CONSIDERATIONS

**13.1 Product Disposal:** Dispose of in accordance with local regulations.

**13.2 Packaging Disposal:** Dispose of in accordance with local regulations.

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**14. TRANSPORT INFORMATION**

**14.1 Road and Rail Transport:**

Haz Identification Code: 33  
 UN No.: 1993  
 Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.  
 Technical Name: Methyltrimethoxysilane / Tetraethyl orthosilicate  
 Class: 3  
 Packing Group: III

**14.2 Sea Transport (IMDG):**

UN No.: 1993  
 Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.  
 Technical Name: Methyltrimethoxysilane / Tetraethyl orthosilicate  
 Class: 3  
 Packing Group: III  
 Hazard Label(s): Flammable liquids

**14.3 Air Transport (IATA):**

UN No.: 1993  
 Proper Shipping Name: Flammable liquid, n.o.s.  
 Technical Name: Methyltrimethoxysilane / Tetraethyl orthosilicate  
 Class: 3  
 Packing Group: III  
 Hazard Label(s): Flammable Liquids

**15. REGULATORY INFORMATION**

**15.1 Hazardous Substance Act, B.E. 2535:**

<u>Chemical Name</u>	<u>CAS No.</u>
Not available.	

**15.2 Chemical Inventories:**

**EINECS:** All ingredients listed or exempt.  
**TSCA:** All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.  
**AICS:** All ingredients listed or exempt.  
**IECSC:** All ingredients listed or exempt.  
**ENCS/ISHL:** All components are listed on ENCS/ISHL or its exempt rule.  
**KECL:** All ingredients listed, exempt or notified.  
**PICCS:** All ingredients listed or exempt.  
**DSL:** All chemical substances in this material are included on or exempted from the DSL.  
**HSNO:** All ingredients listed or exempt.

**16. OTHER INFORMATION**

# XIAMETER(R) Material Safety Data Sheet

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Contact Point:	EHS, QA, Production or Distribution Center Department Head
Prepared by:	Dow Corning (Thailand) Limited

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby 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.

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<http://www.xiameter.com>