

**Dow Corning Singapore Pte Ltd -
Malaysia Representative Office
Chemical Safety Data Sheet**

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Last Revision Date: 19.07.2010
Version: 2.4

DOW CORNING(R) 1-2577 CONFORMAL COATING

1. Chemical Product and Company Identification

1.1 Product Details

Product Name: DOW CORNING(R) 1-2577 CONFORMAL COATING
Other Name: None
Chemical Family: Silicone in solvent
Manufacturer's Product Code: 01592424
Use: Semiconductor coating

1.2 Company Details

Manufacturer/Supplier: Dow Corning Singapore Pte Ltd - Malaysia Representative Office
Address:

Telephone Number:
Emergency Telephone Number:
Contact Person: Country Manager

2. Composition and Information on Hazardous Ingredients

<u>Chemical Name</u>	<u>CAS No.</u>	<u>% (w/w)</u>	<u>Symbols & Health Risk Phrases</u>
Dimethyl methylphenylmethoxy siloxane	68952-93-2	> 60	Not hazardous.
Toluene	108-88-3	10 - <30	F Highly flammable. Xn Harmful. Xi Irritant. R11 Highly flammable. R38 Irritating to skin. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R63 Possible risk of harm to the unborn child. R65 Harmful: May cause lung damage if swallowed. R67 Vapours may cause drowsiness and dizziness.

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Methyltrimethoxysilane	1185-55-3	<10	F Highly flammable. Xn Harmful. Xi Irritant. R11 Highly flammable. R22 Harmful if swallowed. R43 May cause sensitization by skin contact.
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3. Physical and Chemical Properties

3.1	Physical Form:	Liquid
3.2	Colour:	Greenish yellow
3.3	Odour:	Strong odor
3.4	Solubility in Water:	Not determined.
3.5	Boiling Point:	> 65 °C
3.6	Melting Point:	Not determined.
3.7	Vapor Pressure @ 25°C:	Not determined.
3.8	Percent Volatiles:	Not determined.
3.9	Evaporation Rate:	Not determined.
3.10	Vapour Density (air=1):	Not determined.
3.11	Specific Gravity:	1.04
3.12	Flash Point:	5 °C (Tag Closed Cup)
3.13	Autoignition Temperature:	Not determined.
3.14	Upper Flammability Limit:	Not determined.
3.15	Lower Flammability Limit:	Not determined.

The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

4. Hazard Identification

Most Important Hazards:	R11 Highly flammable. R38 Irritating to skin. R43 May cause sensitization by skin contact. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R63 Possible risk of harm to the unborn child. R67 Vapours may cause drowsiness and dizziness.
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5. First Aid Measures

5.1	Ingestion:	Get immediate medical attention. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.
5.2	Eye:	Immediately flush with water for 15 minutes. Get medical attention.

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5.3 Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
5.4 Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.
5.5 Comments:	Treat according to person's condition and specifics of exposure.
5.6 Note to physicians:	Treat symptomatically. For further information, the medical practitioner should contact Dow Corning Singapore Pte Ltd - Malaysia Representative Office.

6. Fire Fighting Measures

6.1 Extinguishing Media:	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.
6.2 Unsuitable Extinguishing Media:	Water. Do not allow extinguishing medium to contact container contents.
6.3 Unusual Fire Hazards:	Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.
6.4 Special Firefighting Procedures:	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.
6.5 Other Recommendations:	None.
6.6 Hazardous Combustion Products:	Metal oxides. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Silicon dioxide.

7. Accidental Release Measure

7.1 Personal Precautions:	Avoid skin and eye contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.
7.2 Environmental Precautions:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
7.3 Methods for Cleaning up:	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.

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8. Handling and Storage

8.1 Handling Precautions:	Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300 degrees F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. 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.
8.2 Storage Conditions:	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.
8.3 Unsuitable Packaging Materials:	None established.

9. Exposure Control / Personal Protection

9.1 Exposure Limits

<u>Ingredients</u>	<u>CAS No.</u>	<u>Exposure Limits</u>
Dimethyl methylphenylmethoxy siloxane	68952-93-2	See methyl alcohol comments.
Toluene	108-88-3	Malay: TWA 50 ppm (188 mg/m ³). Can be absorbed through the skin. OSHA PEL (final rule): 8-Hour TWA 200 ppm, Ceiling 300 ppm, 10 minutes maximum duration 500 ppm. ACGIH TLV: TWA 20 ppm.
Methyltrimethoxysilane	1185-55-3	Dow Corning guide: TWA 50 ppm. Also see methyl alcohol comments.

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.

9.2 Engineering Controls

Local Ventilation:	Recommended.
General Ventilation:	Recommended.

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9.3 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:** Use chemical worker's goggles.
- Hand:** Chemical protective gloves should be worn.
- Skin:** 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.
- Personal Hygiene:** Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

9.4 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:** Traces of benzene (carcinogen) may form if heated in air above 300 degrees F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures.
- 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.
- 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) or contact the Dow Corning customer service group.

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10. Stability and Reactivity

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| 10.1 Stability: | Stable. |
| 10.2 Conditions to avoid: | None. |
| 10.3 Materials to avoid: | Water, moisture or humid air can cause hazardous vapors to form.
Can react with strong oxidising agents. |
| 10.4 Hazardous Decomposition Products: | Metal oxides. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Silicon dioxide. |
| 10.5 Hazardous Polymerization : | Hazardous polymerization will not occur. |

11. Toxicological Information

11.1 Possible Health Effects

Acute

- | | |
|--------------------|--|
| Skin: | May cause moderate irritation. |
| Eye: | Direct contact may cause severe irritation. |
| Inhalation: | Vapor may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination. |
| Ingestion: | Aspiration of liquid while vomiting may injure lungs seriously. |

Chronic

- | | |
|---|--|
| Skin: | Repeated skin contact may cause allergic skin reaction. Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis. |
| Inhalation: | Overexposure by inhalation may injure the following organ(s): Liver. Kidneys. Nervous system. |
| Ingestion: | Repeated ingestion or swallowing large amounts may injure internally. |
| Other Health Hazard Information: | Toxicology studies with laboratory animals and occupational evaluations with humans have found limited evidence of birth defects, low birth weights and delayed growth in offspring resulting from repeated exposures to toluene during pregnancy. |

- | | |
|---------------------------|-----------------|
| 11.2 LD50 (Oral): | Not determined. |
| LD50 (Dermal): | Not determined. |
| LC50 (Inhalation): | Not determined. |

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

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Organic solvents may evaporate into the atmosphere, where they degrade. Siloxanes are removed from water by sedimentation or binding to sewage sludge. In soil, siloxanes are degraded.

12.2 Environmental Effects

No adverse effects on aquatic organisms are predicted.

Bioaccumulation: Low potential to bioaccumulate.

12.3 Fate and Effects in Waste Water Treatment Plants

No adverse effects on bacteria are predicted. The siloxanes in this product do not contribute to the BOD. The organic solvents in the product are biodegradable.

13. Disposal Information

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

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

14. Transportation Information

14.1 Road and Rail Transport

Class: 3
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: Toluene / Methyltrimethoxysilane
UN No.: 1993
Packing Group: II

14.2 Sea transport (IMDG)

Class: 3
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: Toluene / Methyltrimethoxysilane
UN No.: 1993
Packing Group: II
Hazard Label(s): flammable liquid

14.3 Air Transport (IATA-DGR)

Class: 3
Proper Shipping Name: Flammable liquid, n.o.s.
Technical Name: Toluene / Methyltrimethoxysilane
UN No.: 1993
Packing Group: II
Hazard Label(s): Flammable Liquid

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15. Regulatory Information

15.1 Classification and Labelling

Proposed Classification: F Highly flammable.
Xi Irritant.
Xn Harmful.

Risk Phrases: R11 Highly flammable.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases: S16 Keep away from sources of ignition - no smoking.
S23 Do not breathe gas/fumes/vapour/spray.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S41 In case of fire and/or explosion do not breathe fumes.
S51 Use only in well-ventilated areas.

15.2 Applicable Laws Occupational Safety and Health (Classification, Packaging and Labelling of Hazardous Chemicals) Regulations 1997

15.3 Chemical Inventories

EINECS: All ingredients listed or exempt.
IECSC: All ingredients listed or exempt.
DSL: All chemical substances in this material are included on or exempted from the DSL.
AICS: 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.
PICCS: All ingredients listed or exempt.
ENCs/ISHL: Consult your local Dow Corning office.
KECL: All ingredients listed, exempt or notified.
HSNO: All ingredients listed or exempt.

16. Other Information

Contact Point:
Prepared by: Dow Corning Singapore Pte Ltd - Malaysia Representative Office

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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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