道 康 宁（上 海）有 限 公 司
物质安全资料表

中国上海松江工业开发区东区大道 448 号
电 话：（86 21）57741161 传真：（86 21）57741162

SYLGARD(R) 160 SILICONE ELASTOMER - PART A

一、化学品及企业识别

1.1	**产品名称:**	SYLGARD(R) 160 SILICONE ELASTOMER - PART A
1.2	**制造商的产品代码:**	04002986
1.3	**危险化学品分类:**	硅酮弹性体
1.4	**危险货物分类:**	尚未评估。
1.5	**公司介绍:**	

制造商/供应商名称: 道康宁(上海)有限公司
地址: 中国上海松江工业开发区东区大道 448 号
电话: (86 21) 57741161 **传真电话:** (86 21) 57741162
应急电话: (86 21) 57741161
联络人: 环境、健康和安全部经理

二、成分/组成信息

2.1	**化学类别:**	混合物
2.2	**物理形态:**	粘性液体
2.3	**颜色:**	炭灰色
2.4	**主要用途:**	硅氧烷制造中间体
2.5	**危险组分*:**	

化学品名称	CAS 编号	% (w/w)	符号& 健康危险术语

无危害性成份。

*依据欧洲 European Commission Directive 88/379/EEC (Article 3 [6a])

三、危险性鉴别

3.1	**危险性类别:**	无危害性。
3.2	**危险性信息:**	无危害性。 避免接触皮肤及眼睛。

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3.3	**暴露途径:**	皮肤接触和意外吞食。
3.4	**健康危害:**	
	急性影响	
	眼睛:	直接接触可能引起短暂的发红及不舒服感。
	皮肤:	单一短时间暴露不会有重大影响。
	吸入:	单一短时间暴露不会有重大影响。
	食入:	正常使用时只具很低的摄入危害。
	慢性影响	
	皮肤:	无适合的资料。
	吸入:	无适合的资料。
	食入:	反复摄入或吞咽大量可能造成内部伤害。
3.5	**过分接触的影响和症状:**	正常使用状态下，单次暴露并不会产生危害影响。

四、急救措施

4.1	**眼睛:**	立即用水冲洗。
4.2	**皮肤:**	毋需急救。
4.3	**吸入:**	毋需急救。
4.4	**食入:**	就医处理。
4.5	**注释:**	对症医治。
4.6	**对医生的提示:**	对症医治。如果您想进一步地了解信息，请与道康宁(上海)有限公司联络。

五、消防措施

5.1	**燃烧性:**	可燃性。
5.2	**闪点:**	> 101.1 °C 闭杯测试法
5.3	**引燃温度:**	未测定。
5.4	**爆炸上限:**	未测定。
5.5	**爆炸下限:**	未测定。
5.6	**危险特性:**	无。

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5.7	**灭火剂:**	大火时使用干化学物品、泡沫或水雾。 小火时使用二氧化碳、干化学物品或水雾。 可以水冷却暴露于火灾中的容器。
5.8	**特殊的灭火程序和设备:**	扑灭涉及化学物品的大火时，应佩戴自给式呼吸器及防护衣物。 根据当地紧急计划，决定是否需要撤离或隔离该区域。 用水冷却受火灾影响的容器。
5.9	**有害的燃烧产物:**	二氧化硅。 二氧化碳及微量的未完全燃烧的碳化物。 甲醛。 石英。 金属氧化物。
5.10	**禁止使用的灭火剂:**	未确定。

六、泄漏应急处理

6.1	**个人防护注意事项:**	避免眼睛接触。 不可内服。
6.2	**环境保护注意事项:**	用沙、土或其它合适的抑制物来防止扩散或进入下水道、排水沟或河流。
6.3	**消除方法:**	根据当地紧急计划，决定是否需要撤离或隔离该区域。 遵守在本物质安全资料表中所列的所有的个人防护设备使用建议。假如围堵的物品可以被吸起，应将其装入合适的容器内。 用合适的吸附剂清理泄漏残余物。 适当清理泄漏区域，因为有些硅酮物品即使在很少量时也会产生滑腻危害。要求使用蒸汽、溶剂或清洁剂作最终清理。 适当处理浸透饱和的吸收剂或清洁物品，因为其可能产生自热。 有关法律规定可能适用于本物品的泄漏与释放，同样也适用于用来清理泄漏的材料物品。您需要确定较合适的法律法规。

七、操作处置与储存

7.1	**操作注意事项:**	使用充分的通风排气设备。 避免眼睛接触。 不可内服。 施行良好工业卫生措施，请于操作后进行清洗，尤其是在饮食或抽烟之前。
7.2	**储存注意事项:**	需谨慎小心，远离氧化性物料储存。
7.3	**不适合的包装材料:**	未确定。

八、接触控制/个体防护

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8.1 工业卫生标准:

组分	CAS 编号	接触极限
未知。		

8.2 工程控制

局部通风设备: 毋需使用。
普通通风设备: 建议使用。

8.3 常规操作的个人防护设备

呼吸系统防护: 不需要使用呼吸防护设备。

使用适当的呼吸器: 毋需使用。

眼睛防护: 使用适当的防护－安全眼镜是最起码要求。

手防护: 毋需特别防护。

皮肤防护: 进餐和下班时清洗是充分的。

个人卫生措施: 施行良好工业卫生措施，请于操作后进行清洗，尤其是在饮食或抽烟之前。

8.4 泄漏的个人防护设备

呼吸系统防护: 不需要使用呼吸防护设备。

眼睛防护: 使用适当的防护－安全眼镜是最起码要求。

皮肤防护: 进餐和下班时清洗是充分的。

预防措施: 避免眼睛接触。 不可内服。 采取适度的防护。

备注: 以上的操作注意事项都是基于常温常规操作条件的。如果在高温或以喷雾状态被使用时，需要遵守特殊的注意事项。

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九、理化性质

9.1	**物理形态:**	粘性液体
9.2	**颜色:**	炭灰色
9.3	**气味:**	未呈报。
9.4	**pH 值:**	未测定。
9.5	**溶解性:**	未测定。
9.6	**沸点:**	> 35C/95F
9.7	**熔点:**	未测定。
9.8	**闪点:**	> 101.1 ℃ 闭杯测试法
9.9	**引燃温度:**	未测定。
9.10	**爆炸性:**	否
9.11	**氧化性:**	否
9.12	**蒸气压(25℃):**	未测定。
9.13	**比重:**	1.58
9.14	**辛醇/水分配系数:**	未测定。
9.15	**相对蒸气压（空气=1):**	未测定。
9.16	**粘度:**	44 Poise
9.17	**分子量:**	未测定。

以上资料仅供参考，如果要准备产品资料，请与道康宁公司联络。

十、稳定性和反应性

10.1 **稳定性:** 稳定的。

10.2 **反应性**

避免接触的条件:	无。
禁配物:	氧化剂能引发反应。
分解产物:	二氧化硅。 二氧化碳及微量的未完全燃烧的碳化物。 甲醛。 石英。 金属氧化物。
聚合危害 :	不会产生危害的聚合反应。

十一、毒理学资料

11.1	**健康危害:**	参阅章节 3.4。
11.2	**致敏性:**	未知。
11.3	**致突变性:**	未知。

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11.4 **致生殖遗传性：** 未知。
11.5 **致癌性：** 未知。
11.6 **其它健康危害信息：** 无适合的资料。

以上所列举的潜在的危害是建立对产品或类似产品的组分研究所得数据或专家对产品的评审的基础上。

十二、生态学资料

12.1 **环境影响及其分布：**

通过沉积或粘合至污水淤泥，将硅氧烷从水中分离出来。 硅氧烷在土壤中退化降解。

12.2 **环境影响：**

对水生有机体无有害影响。

生物积累性： 无生物累积能力。

12.3 **对废水处理厂的影响：**

通过与污水淤泥粘合，可被去除 90% 以上。 对细菌无有害影响。 本产品中的硅氧烷不是BOD的一部分。

12.4 **进一步的环境补充资料：**

降解性： 可根据要求提供额外的有关硅氧烷化合物的环境资料。

十三、废弃处置

13.1 **产品废弃物处置方法：** 按照当地法规进行废弃处理。

13.2 **包装废弃物处置方法：** 按照当地法规进行废弃处理。

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十四、运输信息

14.1 公路和铁路运输:

尚未评估。

14.2 海运 (IMDG):

不属 IMDG 编码。

14.3 空运 (ICAO):

不属 ICAO 规定。

十五、法规信息

15.1 适用法规:

工作场所安全使用化学品规定[(1996)劳部发423号]，针对化学危险品的安全使用、生产、储存、运输、装卸等方面均作了相应规定。

15.2 化学品库存:

AICS:	所有组成份均列出或予以免除。
DSL:	本物品中的所有化学成分都被列入DSL化学物质目录或获得DSL化学物质目录的豁免。
IECSC:	所有组成份均列出或予以免除。
MITI:	所有组成份均列入 ENCS 或它的免除规定中。
KECL:	所有成份均被列出、予以免除或公告。
EINECS:	所有组成份均列出或予以免除。
TSCA:	本物品中的所有化学成分都被列入TSCA化学物质目录或获得TSCA化学物质目录的豁免。
PICCS:	所有组成份均列出或予以免除。

十六、其他信息

联络处:	技术服务工程师 (86 21) 57741161
制作者:	道康宁(上海)有限公司

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SYLGARD(R) 160 SILICONE ELASTOMER - PART A

这个资料不是产品说明书，而是为了提供有代表性价值的概念。这里没有担保、表白或暗示。推荐的工业卫生和安全处理程序相信已基本适用。然而，每位用户应于使用前审阅此产品预定使用方式的建议并决定是否适用。

（ R ）意指注册商标

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

SYLGARD(R) 160 SILICONE ELASTOMER - PART A

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 02335221 Revision Date: 2002/01/29

Generic Description: Silicone elastomer
Physical Form: Viscous Liquid
Color: Charcoal gray
Odor: Not available

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation**:** No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Comments:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Quartz. Metal oxides.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. 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 some silicone 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. Local, state and federal 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 federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Dow Corning Corporation, (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation: None should be needed.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: No special protection needed.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Viscous Liquid
Color:	Charcoal gray
Odor:	Not available
Specific Gravity @ 25°C:	1.58
Viscosity:	44 Poise
Freezing/Melting Point:	Not determined.
Boiling Point:	> 35C/95F
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.

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

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances:

None.

Section 304 CERCLA Hazardous Substances:

None.

Section 312 Hazard Class:

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals:

None present or none present in regulated quantities.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
14808-60-7	40.0 - 70.0	Quartz
68083-19-2	40.0 - 70.0	Dimethyl siloxane, dimethylvinyl-terminated

Pennsylvania

CAS Number	Wt %	Component Name
14808-60-7	40.0 - 70.0	Quartz
68083-19-2	40.0 - 70.0	Dimethyl siloxane, dimethylvinyl-terminated

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either 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.

(R) indicates Registered Trademark

Product Information
Electronics

DOW CORNING

Sylgard® 160 Silicone Elastomer

FEATURES & BENEFITS

- Good flowability
- Room temperature or heat accelerated cure
- Moderate thermal conductivity
- UL 94 V-0
- Rapid, versatile cure processing controlled by temperature
- Can be considered for uses requiring added flame resistance

COMPOSITION

- Gray
- 1 to 1 Mix Ratio
- Polydimethylsiloxane

Two-part, 1 to 1 mix, dark gray, general purpose encapsulant with good flowability and flame resistance

APPLICATIONS

- *Sylgard*® 160 Silicone Elastomer is suitable for general potting material for power supplies, connectors, sensors, industrial controls and transformers.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Result
One or Two-Part	-	Two
Color	-	Dark Gray to Black
Viscosity (Part A)	cP Pa-sec	6,000 6
Viscosity (Part B)	cP Pa-sec	3,730 3.7
Viscosity (Mixed)	cP Pa-sec	4,865 4.8
Specific Gravity (Uncured Part A)	-	1.61
Specific Gravity (Uncured Part B)	-	1.60
Thermal Conductivity	BTU/hr ft °F W/m °K	0.36 0.62
Working Time at 25°C (Pot Life - minutes)	minutes	20
Cure Time at 25°C	hours	24
Heat Cure Time at 100°C	minutes	4
Durometer Shore A	-	56
Dielectric Strength	volts/mil kV/mm	475 19
Volume Resistivity	ohm *cm	5.6 E+14
Dielectric Constant at 100 Hz	-	3.51
Dielectric Constant at 100 kHz	-	3.45
Dissipation Factor at 100 Hz	-	0.0047
Dissipation Factor at 100 kHz	-	0.00118
Linear CTE (by DMA)	µm/m- °C or ppm	200
UL RTI Rating	°C	150

DESCRIPTION

Dow Corning® brand silicone encapsulants are supplied as two-part liquid component kits with a mix ratio of 1 to 1. When liquid components are thoroughly mixed, the mixture cures to a flexible elastomer, which is well suited for the protection of electrical/electronic applications. *Dow Corning* silicone encapsulants cure without exotherm at a constant rate regardless of sectional thickness or degree of confinement. *Dow Corning*® silicone encapsulant requires no post cure and can be placed in service immediately following the completion of the cure schedule. Standard silicone encapsulants require a surface treatment with a primer in addition to good cleaning for adhesion while primerless silicone encapsulants require only good cleaning.

This material has a UL 94 –V-0 flame rating. Please review UL file QMFZ2.E40195 for more specific information on the thickness ranges tested.

APPLICATION METHODS

- Automated metered mixing and dispensing
- Manual mixing

MIXING AND DE-AIRING

These products are supplied in a 1 to 1 mix ratio, which is very robust in manufacturing environments and allows for some process and dispense equipment variation. In most cases de-airing is not required.

PREPARING SURFACES

In applications requiring adhesion, priming will be required for many of the silicone encapsulants. For best results, the primer should be applied in a very thin, uniform coating and then wiped off after application. After application, it should be thoroughly cured prior to application of the silicone encapsulant. Additional instructions for primer usage can be found in the information sheets specific to the individual primers.

PROCESSING/CURING

Thoroughly mixed *Dow Corning* silicone encapsulants may be poured/dispensed directly into the container in which it is to be cured. Care should be taken to minimize air entrapment. When practical, pouring/dispensing should be done under vacuum, particularly if the component being potted or encapsulated has many small voids. If this technique cannot be used, the unit should be evacuated after the silicone encapsulant has been poured/ dispensed. *Dow Corning* silicone encapsulants may be either room temperature (25°C/77°F) or heat cured. Room temperature cure encapsulants may also be heat accelerated for faster cure. Ideal cure conditions for each product are given in the product selection table.

POT LIFE AND CURE RATE

Cure reaction begins with the mixing process. Initially, cure is evidenced by a gradual increase in viscosity, followed by gelation and conversion to a solid elastomer. Pot life is defined as the time required for viscosity to double after Parts A and B (base and curing agent) are mixed and is highly temperature and application dependent. Please refer to the data table.

USEFUL TEMPERATURE RANGES

For most uses, silicone encapsulants should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at both the low- and high temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations and should be adequately tested for the particular end use environment. For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. At the high-temperature end, the durability of the cured silicone elastomer is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

COMPATIBILITY

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of addition cure gels. Most notable of these include: organotin and other organometallic compounds, silicone rubber containing organotin catalyst, sulfur, polysulfides, polysulfones or other sulfur containing materials, unsaturated hydrocarbon plasticizers, and some solder flux residues. If a substrate or material is questionable with respect to potentially causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability in a given application. The presence of liquid or uncured product at the interface between the questionable substrate and the cured gel indicates incompatibility and inhibition of cure.

REPAIRABILITY

In the manufacture of electrical/electronic devices it is often desirable to salvage or reclaim damaged or defective units. With most non-silicone rigid potting/ encapsulating materials, removal or entry is difficult or impossible without causing excessive damage to internal circuitry. *Dow Corning* silicone encapsulants can be selectively removed with relative ease, depending on the chosen remove method and technique and repairs or changes accomplished, and the repaired area repotted in place with additional product. To remove silicone elastomers, simply cut with a sharp blade or knife and tear and remove unwanted material from the area to be repaired. Sections of the adhered elastomer are best removed from substrates and circuitry by mechanical action such as scraping or rubbing and

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can be assisted by applying *Dow Corning*® brand OS Fluids to swell the elastomer. Before applying additional encapsulant to a repaired device, roughen the exposed surfaces of the cured encapsulant with an abrasive paper and rinse with a suitable solvent and dry. This will enhance adhesion and permit the repaired material to become an integral matrix with the existing encapsulant. Silicone prime coats are not recommended for adhering products to themselves.

PACKAGING INFORMATION

Multiple packaging sizes are available for this product. Please contact your local distributor or Dow Corning representative for information on packaging size and availability.

USABLE LIFE AND STORAGE

Shelf life is indicated by the "Use Before" date found on the product label. Refer to the product label for storage temperature requirements. Special precautions must be taken to prevent moisture from contacting these materials. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases, such as nitrogen. Exposure to moisture could reduce adhesion and cause bubbles to form. Encapsulant materials which contain higher levels of fillers that have been stored for long periods of time should typically be agitated or rolled prior to mixing to prevent separation and settle-out.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, dowcorning.com or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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SYLGARD® 160 双组份有机硅弹性体

描述

SYLGARD® 160 有机硅弹性体是液态 AB 双组分套装成品。A 组分是灰色，B 组分是米白色以便分辨和彻底混和。AB 组分以 1:1 的重量比或体积比混和后固化成为柔性弹性体，适用于电子、电气工业中的灌封应用。

SYLGARD® 160 有机硅弹性体可以室温固化或加热加速固化。室温下的适用期和固化时间与用量无关。固化时不会大量收缩或放出反应热。SYLGARD® 160 有机硅弹性体通过 UL 94-V0 塑料材料阻燃性能认证。

SYLGARD® 160 有机硅弹性体	
类型	双组分有机硅弹性体
颜色	灰色/米白色
物理形态	供货时：低粘度流体 固化后：弹性橡胶
固化	室温固化或加热加速固化
特性	UL 94-V0 塑料材料阻燃性能认证
基本应用	灌封

典型特性

供货时—A 组分/B 组分		
CTM 0176	外观（A/B）……	灰色/米白色
CTM 0050	粘度，25℃，泊……	88/45
	混和比，重量比或体积比……	1/1
CTM 0097	比重，25℃……	1.58/1.56
混和后—1/1，重量比或体积比		
CTM 0176	外观……	灰色
CTM 0050	粘度，25℃，泊……	50
	混和 30 分钟后……	80-120
物理性能		
CTM 0176	外观……	灰色
CTM 0099A	肖氏 A 硬度……	57
CTM 0137A	拉伸强度，psi……	535
CTM 0137A	延伸率，%……	75
CTM 0022	比重，25℃……	1.57
UL 94	阻燃等级……	94-V0
CTM 0585	体积热膨胀系数，cc/cc/℃（0-100℃）…	8×10^{-4}
	吸水率，%……	0.1
	热导率，cal/cm/sec-sq cm/℃……	13.9×10^{-4}
电性能		
CTM 0114	绝缘强度，volts/mil……	470
CTM 0114	介电常数，100Hz……	3.38
	100kHz……	3.26
CTM 0012	耗散系数，100Hz……	0.014
	100kHz……	<0.001
CTM 0249	体积电阻率，ohm-cm……	$>10^{13}$

应用

SYLGARD® 160 有机硅弹性体是一种适用于自动点胶或批量加工的通用灌封材料。这种成本低、性能好的产品也可用于各种电子灌封应用，包括电源、连接器、传感器、工业控制等。

应用方法

混和

使用前将 A、B 组分以 1:1 的重量比或体积比完全混和，直至达到均匀的灰色。混合可用手工方法完成，也可采用自动混合和配料设备。

脱气

在对气体混入敏感的场合，160 需要在混合和/或灌封之后真空脱气。在 28” 汞柱真空下脱气 10 分钟就能得到良好效果。较多的胶料需要较长的脱气时间。

适用期

在 25℃的室温条件下，160 在双组份混合之后 30-40 分钟内粘度翻倍。粘度逐渐增大，但在 12 小时内能保持流动。

固化

SYLGARD® 160 有机硅弹性体可以室温固化或加热加速固化。可以参考下列固化程序:

25℃下 24 小时;
50℃下 4-6 小时;
100℃下 1-2 小时;
150℃下 0.5-1 小时;

注意较大量的胶料需要较长的时间达到一定温度。

底涂

底涂应用于需要粘接的场合。推荐使用道康宁 1200 底涂，但在不同基材上粘接立会有不同。某些情况下，道康宁 92-023 和 3-6060 底涂是合适的选择。粘接力在初始固化以后持续增长，因此可能需要比推荐固化程序更长的时间才能达到最佳粘接效果。

注意: 使用底涂时要遵循容器标签和 MSDS 指出的注意事项，保持充足通风。

固化抑制

某些材料会制约 SYLGARD® 160 的固化。最值得注意的材料包括:

有机锡金属和其他有机金属的复合物
含有有机催化剂的硅橡胶
硫磺，聚硫化物和其他含硫材料
胺、聚氨酯和含胺化合物如某些环氧

可修复性

在制造电子/电气产品时，经常希望将损坏的或有缺陷的工件修复好重新利用。对大多数刚性灌封材料来说，很难或几乎不可能在不损害内部电路的条件下除去或打开。而 SYLGARD® 160 就可以容易地有选择地去除，也可以用其它材料进行修补。

运输限制

无

储存和储存期

SYLGARD® 160 应储存在 32℃以下的密闭容器中，此时，储存期为起运之日起 12 个月。160 没有沉降的倾向，但在长期储存后，AB 组分在混合前应搅拌。

包装

AB 组分独立包装。整个套装的净重有 1.4、10.9、50、454.6Kg 四种。

安全操作资料

这里不包括产品安全资料。在使用前，请注意阅读产品资料、产品安全资料及包装标签以便安全使用。产品安全资料可以从道康宁各分销商处获得，也可以写信给道康宁服务中心或者打电话（517）496-6000。

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