

## Technical Library

### RTV Silicone Rubber Curing Agents

#### Product Description



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Several different curing agents are available for two-component RTV silicone rubber compounds to provide a choice of cure speed, mixing ratio, or deep section cure.

DBT (dibutyl tin dilaurate)	RTV9950 (white)
STO (stannous tin octoate)	RTV9811 (beige)

DBT (dibutyl tin dilaurate) and STO (stannous tin octoate) are clear, easily pourable liquids, while white RTV9950 is a paste and beige RTV9811 is a pourable paste. All are based on metal soaps. These curing agents are appropriate to use with the following products: RTV11, RTV21, RTV31, RTV41, RTV60, RTV77, RTV88, RTV511, RTV560, and RTV577.

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#### Applications

**DBT** (dibutyl tin dilaurate) is the liquid curing agent generally preferred for most applications. Used in concentrations from 0.1 to 0.5% by weight, DBT provides adequate work time and moderate cure speed. The effects of varying DBT concentration are shown in the table of typical cure rates. Varying the concentration within the limits shown has little or no effect upon the final cured properties of the RTV silicone rubber compound.

**STO** (stannous tin octoate) is the fastest of the commonly used curing agents and is especially useful where cure times of one hour or less are required. Normally, concentrations up to 0.5% by weight are used. Because of the short work time and rapid curing action, RTV silicone rubber compounds catalyzed with STO should be applied immediately after thorough mixing.

**RTV9950**, a pre-blended paste based on DBT, is designed for use at a level of 10% by weight of the RTV base compound. This ratio makes this product especially useful where automatic mixing and dispensing is needed for production line or large volume operations. At the 10% level, RTV9950 provides the equivalent of 0.5% DBT.

**RTV9811** has been specially designed for thorough cure of RTV silicone rubber compounds in thick section. This curing agent is also used at a level of 10% by weight of the RTV base compound and is suggested for general use because of the easy mixing ratio, good color contrast, and ability to cure in deep sections.

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### Product Features and Benefits

#### DBT and STO

- Simple handling procedures and equipment for easy use and low processing cost.
- Adjustable work time and cure rate obtainable through choice of curing agent and level used

#### RTV9950

- Convenient 10:1 mixing ratio for use in automatic dispensing or hand operations
- Excellent color contrast with red RTV base compounds provides visual evidence of complete mixing.

#### RTV9811

- Convenient 10:1 mixing ratio for use in automatic dispensing or hand operations.
- Good color contrast with RTV base compounds provides visual evidence of complete mixing.
- Good cure in deep sections eliminates need for multiple pours and long cure times.
- Inhibitor to prevent copper corrosion permits use with sensitive metals.

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#### Instructions for Use

##### Mixing

Select a mixing container 4-5 times larger than the volume of RTV silicone rubber compound to be used. Weigh out the silicone rubber base compound and add the appropriate amount of curing agent.

With clean tools, thoroughly mix the RTV base compound and the curing agent, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. When using power mixers, avoid excessive speeds which could entrap large amounts of air or cause over heating of the mixture, resulting in shorter pot life.

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#### Deaeration

Air entrapped during mixing should be removed to eliminate voids in the cured product. Expose the mixed material to a vacuum of at least 22mm (29 in.) of mercury. The material will expand, crest and recede to about the original level as the bubbles break. Degassing is usually complete about two minutes after frothing ceases. When using RTV silicone rubber for potting, a step may be necessary after pouring to avoid capturing air in complex assemblies.

Automatic equipment designed to meter, mix, deaerate and dispense two-component RTV silicone rubber compounds will add convenience to continuous or large operations.

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#### Storage and Handling

DBT, STO, RTV9950, and RTV9811 curing agents will remain useful for at least six months from the date of shipment when stored in the original unopened containers at temperatures below 27°C. At temperatures below 18°C, the DBT curing agent may solidify; warm gently to liquify before using.

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#### **Safety Precautions**

Material Safety Data Sheets defining the known hazards and describing appropriate safety precautions with respect to the products are available upon request. Similar information sheets for solvents and other chemicals used with our products may be obtained from the supplier and used accordingly.

#### **Caution**

DBT, STO, RTV9950, and RTV9811 curing agents cause eye irritation and may cause skin irritation. Avoid contact with skin and eyes. In case of eye contact, flush with water for 15 minutes and see a physician. For skin contact, wash with soap and water. Clothing contaminated with DBT or STO should be removed and laundered before reuse.

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#### Availability

We supply DBT curing agent with small quantities of RTV silicone rubber compounds. Separate small quantities of DBT and STO curing agents are available upon request.

#### **DBT( dibutyl tin dilaurate)**

Cincinnati Milacron Co., New Brunswick,  
NY

Cosan Chemical Corp., Clifton NJ

MT&T Chemicals, INC., Rahway, NJ

Witco Chemical Corp., Brooklyn, NY

#### **STO( stannous tin octoate)**

MT&T Chemicals, Inc., Rahway,  
NJ

Tenneco Chem., Inc., Piscataway, NJ

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### Specifications

Typical product data values should not be used as specifications.

### Government Requirement

Prior to considering use of our products in fulfilling any government requirement, please contact the Government and Trade Compliance office at 413-448-4624.

**CDS1787 (3/82)**

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