



There are many known chemicals to cause inhibition in addition curing silicones. Addition cure silicones use a platinum catalyst which reacts to affect the curing reaction when the “A” component is mixed with the “B” component. The platinum can become deactivated by coming in contact with certain chemical species. Once the catalyst is deactivated or poisoned, the affected area of silicone may never cure to the proper state of cure - meaning the inhibited area may stay runny, sticky, or fluid.

There are varying degrees of cure inhibition. The affected area could range from a complete non-cure to a slimy or sticky surface. The level of inhibition is determined by the type as well as the amount of the chemical species that the catalyzed silicone compound comes in contact with.

Here is a partial list of some of the more common materials that are known to cause cure inhibition. Please note, this is by no means a complete list of all problematic materials and is intended as a guide.

Compounds containing:

- Amines and amides
- Neutralizing amines
- Ethanolamine, N-methylethanolamine, triethanolamine
- N, N-dimethyl ethanolamine, n-butylamine, diethylamine
- Triethylamine, tetramethylenediamine, cyclohexylamine
- Melamine
- Dimethylformamide
- Nitriles, cyanates, oximo, nitroso, hydrazo, azo compounds
- Adiponitrile
- 2-butoxime
- Alpha-nitroso-beta-naphthol

- Chelates
- EDTA (ethylenediaminetetraacetic acid)
- NTA (nitriloacetic acid)

Compounds containing sulfur:

- Sulfides, thio compounds
 1. Dibenzyldisulfide, thioacetic acid, allylthiourea

Compounds containing tin:

- Fatty acid tin salts, such as those used in tin-catalyzed silicone release coatings

Compounds containing phosphorus:

- Phosphines
 1. Triphenylphosphine
- Phosphites
 1. Triethylphosphite

Compounds containing arsenic, antimony, selenium, tellurium:

- Arsines, stibenes, selenide, telluride
 1. Triphenylarsine, triphenylstibene
 2. P-chlorophenylcarboxymethylselenide

Residual solvents or monomers:

- Chlorinated hydrocarbons that contain amine stabilizers
- Alcohols
 1. Ethanol, methanol
- Esters
 1. Ethyl acetate, vinyl acetate
- Compounds with unsaturated bonds

Primers that may inhibit cure:

- Polyethylene that has an anti-slip, antioxidant or other additive listed previously
- Primers with pigments that contain any compounds listed previously

(continued)

Primers and that may inhibit cure *(continued)*:

- 100% sodium salt primers, such as sodium alginate or carboxymethylcellulose sodium salt; however, if these salts are used with hydroxyethylcellulose, inhibition will not occur
- Clay coatings that use polyvinylacetate or acrylic latex as a binder
- Coatings that contain calcium carbonate
- Coatings composed of the following combination:
 1. Natural rubber latex/clay; latex/ethylated starch
 2. Styrene/acrylic
 3. Polyvinylacetate; polyvinylacetate/acrylic

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