



Technical Data Sheet

DOWSIL™ 5314 Intermediate

FEATURES & BENEFITS

- Provides improved outdoor weatherability

COMPOSITION

- Liquid phenyl, phenylmethyl methoxy functional intermediate

Intermediate for upgrading acrylic emulsions

APPLICATIONS

- Coatings prepared from emulsion polymers modified with DOWSIL™ 5314 Intermediate exhibit improved outdoor weatherability resulting in improved chalk resistance, color retention and gloss retention.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Solids content	%	100
Silicone yield ¹	%	69
Specific gravity		1.040
Viscosity	cSt (Pa.s)	1.8 (0.0018)
Flash point, closed cup	°C (°F)	28.2 (83)

¹As hydrolyzed with methoxy groups replaced with Si-O-Si.

DESCRIPTION

DOWSIL 5314 Intermediate was developed specifically as an intermediate for upgrading the weatherability of acrylic emulsions. However, it should work equally well with other emulsion systems that are stable at an alkaline pH.

When stirred into an emulsion that has been adjusted to the proper pH, DOWSIL 5314 Intermediate undergoes an emulsion polymerization and deposits a silicone resin on the existing emulsion particles. During polymerization, methanol is liberated as a by-product. See Table 1. The resulting silicone resin is primarily silanol-functional with some original methoxy functionality still present. When used with thermosetting acrylics containing methylated melamines, copolymerization occurs during heat curing of the coating. However, with an air drying system, the silicone resin remains present as a cold blend.

HOW TO USE

Mixing Procedure

Add deionized water to the acrylic emulsion and adjust if necessary to a pH of 8 to 9 by adding dimethyl ethanolamine.

Place the latex in a beaker, flask or other suitable container equipped with a mechanical stirrer. Begin stirring so a vortex forms that extends halfway down the immersed portion of the stirring rod. Add the DOWSIL 5314 Intermediate slowly enough so that it mixes into the latex without floating on the surface. Stir 3 to 5 minutes following addition.

HANDLING PRECAUTIONS

PRODUCT SAFETY

INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS

Table 1: Emulsion Polymerization Reaction



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USABLE LIFE AND STORAGE

When stored at 25°C (77°F) in the original unopened container, this product has a usable life of 36 months from the date of production.

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 has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

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DOWSIL™ 5314 Intermediate

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