



## Technical Data Sheet

# DOWSIL™ RSN-0431 HS Resin

### FEATURES & BENEFITS

- High solids/low VOC (Volatile Organic Compound)
- Good heat stability
- Good weatherability

### COMPOSITION

- 80 percent solids resin in toluene
- Silanol functional

80 percent solids, silanol-functional silicone resin for use in liquid coatings; chemically similar to DOWSIL™ RSN-0840 Resin

### APPLICATIONS

DOWSIL™ RSN-0431 HS Resin can be evaluated for use:

- By itself or blended with a variety of organic resins to improve heat resistance and exterior weatherability
- As an additive to improve initial gloss and flow-out of paint

### TYPICAL PROPERTIES

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

CTM <sup>1</sup>	Property	Unit	Result
<b>As Supplied</b>			
0176	Appearance		Clear liquid
0001A	Specific Gravity		1.14
0004	Viscosity at 25°C (77°F)	cP	800
0021A	Flash Point, closed cup	°C (°F)	7 (45)
0208	Nonvolatile Content <sup>2</sup>	percent	80
	Theoretical Residual Silicon Dioxide	percent	52
	Phenyl / Methyl Ratio		1.2/1.0
	Degree of Substitution		1.4
Method 24	VOC	g/L (lb/gal)	228 (1.9)
	Solubility		Aromatics, hydrocarbons, ketones, esters, chlorinated solvents

<sup>1</sup>CTMs (Corporate Test Methods) correspond to standard ASTM (American Society for Testing and Materials) tests in most instances. Copies of CTM procedures are available upon request.

<sup>2</sup>1.5-g sample for 3 hours at 135°C (275°F).

### HOW TO USE

Pigmented and clear heat-cured coatings based on DOWSIL RSN-0431 HS Resin can be formulated in conventional equipment currently used for solvent based coatings. The resin can be used by itself or blended with silicone and/or organic resins to obtain a wide variety of coatings with polymer characteristics to fit specific applications and properties. A suggested heat cure is 30 minutes at 232°C (450°F).

Zinc octate (0.1 percent zinc metal on resin solids) may reduce cure conditions. See Table 1 for DOWSIL RSN-0431 HS Resin compatibility.

**HANDLING PRECAUTIONS**  
**PRODUCT SAFETY**  
**INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT**

**Table 1: DOWSIL RSN-0431 HS Resin Compatibility<sup>1</sup>**

<b>Resin Type</b>	<b>Brand</b>	<b>10%</b>	<b>50%</b>
Acrylic (Thermoplastic)	<i>Acryloid</i> <sup>®2</sup> A-10	C	SI
	<i>Acryloid</i> <sup>®</sup> B-44	SI	I
	<i>Acryloid</i> <sup>®</sup> B-48S	C	C
	<i>Acryloid</i> <sup>®</sup> B-66	C	C
	<i>Acryloid</i> <sup>®</sup> B-72	C	C
	<i>Acryloid</i> <sup>®</sup> B-82	C	SI
Acrylic (Thermosetting)	<i>Acryloid</i> <sup>®</sup> AT-51	C	C
	<i>Acryloid</i> <sup>®</sup> AT-56	C	C
	<i>Acryloid</i> <sup>®</sup> AT-63	C	C
	<i>Acryloid</i> <sup>®</sup> AT-400	C	C
Epoxy	<i>Epon</i> <sup>®3</sup> 828	C	C
	<i>Epon</i> <sup>®</sup> 1001	I	I
Silicone	DOWSIL <sup>™</sup> RSN-0804 Resin	C	C
	DOWSIL <sup>™</sup> RSN-0805 Resin	C	C
	DOWSIL <sup>™</sup> RSN-0806 Resin	C	C
	DOWSIL <sup>™</sup> RSN-0808 Resin	C	C
	DOWSIL <sup>™</sup> RSN-6018 Resin Intermediate	C	C
	DOWSIL <sup>™</sup> RSN-0233 Flake Resin	C	C

<sup>1</sup>As determined by dry film on glass slides: C – Compatible; SI – Slightly incompatible; I – Incompatible

<sup>2</sup>Acryloid is a registered trademark of Rohm & Haas Company.

<sup>3</sup>Epon is a registered trademark of Shell Chemical Company.

**AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT [WWW.CONSUMER.DOW.COM](http://WWW.CONSUMER.DOW.COM), OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.**

### **USABLE LIFE AND STORAGE**

When stored at 25°C (77°F) in the original unopened container, this product has a usable life of 33 months from the date of production.

Partially filled containers of DOWSIL RSN-0431 HS Resin should be sealed tightly after use to prevent contaminants and water vapor from entering containers.

### **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](http://www.consumer.dow.com) or consult your local Dow representative.

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DOWSIL<sup>™</sup> RSN-0431 HS Resin

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