



Technical Data Sheet

PARALOID™ B-44 Solid Grade Thermoplastic Acrylic Resin

For Treated Metal, Copper, Zinc, Brass, Treated Aluminum, Concrete Floors, and Certain Plastics

Introduction

PARALOID™ B-44 Solid Grade Thermoplastic Acrylic Resin provides an outstanding combination of hardness, flexibility, and adhesion to various substrates. It also permits wider latitude in formulating in solvents that are suitable for specific applications. The resin is slightly softer and more flexible than PARALOID™ A-21 Solid Grade Thermoplastic Acrylic Resin and has excellent adhesion to various substrates.

PARALOID™ B-44 Solid Grade Thermoplastic Acrylic Resin can be dissolved in Toluene, Xylene, selected esters, Acetone, and Methyl Ethyl Ketone. PARALOID™ B-44 Solid Grade Thermoplastic Acrylic Resin is not soluble in most alcohols and aliphatic hydrocarbons as the sole solvent. It is well suited for a variety of applications, including treated metal, copper, zinc, brass, treated aluminum, concrete floors, and certain plastics.

Solubility

Information about the solvent compatibility of PARALOID™ B-44 Solid Grade Thermoplastic Acrylic Resin can be found in The Dow Chemical Company brochure [82A114—PARALOID™ Solid Grade Resins, Solvent Selection Chart](#).

Typical Physical Properties¹

Property	Typical Values
Physical Form	Pellets
Chemical Composition	MMA Copolymer
Tg, °C	60
Bulk Density, lbs/gal, (25°C)	9.8
Solubility Parameter	9.4
Ultimate Hardness of Clear Films, KHN	15 - 16

1. These properties are typical but do not constitute specifications.

Properties in White Lacquers²

Tukon Hardness		Whiteness (K Color Low Numbers Best)		Cross Hatch ³	
30 min. at 180°F	6.5	30 min. at 300°F	7.6	30 min. at 180°F	0
30 min. at 300°F	18.2	16 hrs. at 350°F	9.0	30 min. at 300°F	0
Pencil Hardness		Flexibility, 1/8", 1/4", 1/2" Mandrels ⁴		Mustard Staining (30 min. Exposure)	
30 min. at 180°F	2H	30 min. at 180°F	2, 2, 1	30 min. at 180°F	None
30 min. at 300°F	5H	30 min. at 300°F	3, 3, 2	30 min. at 300°F	Trace
Gloss, 20°		Printing, 2 psi for 1 hr. at 140°F		Gasoline Resistance (15 min. Exposure)	
30 min. at 180°F	71	30 min. at 180°F	Moderate	30 min. at 180°F	OK
30 min. at 300°F	78	30 min. at 300°F	Trace	30 min. at 300°F	OK
Gloss, 60°		Knife Adhesion		Spray Conditions	
30 min. at 180°F	92	30 min. at 180°F	Excellent	Viscosity, #4 Ford Cup, sec.	15
30 min. at 300°F	93	30 min. at 300°F	Excellent	Solids Content, %	24..0

NOTE: Drying the coatings at 300°F for 30 minutes simulates final properties of the resin.

2. The white lacquers were formulated at a titanium dioxide/binder ratio (solids basis) of 30/70. The properties were determined after coatings were sprayed on Bonderite 1000 solution.

3. The degree of flaking at the scribed cross hatch is rated on a 0 (no failure) to 5 (complete lift off) scale.

4. The degree of cracking at the bend over each mandrel is rated on a 0 (no failure) to 10 (complete flaking) scale.

Safe Handling Information

The Dow Chemical Company Material Safety Data Sheets (MSDS) contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Under the OSHA Hazard Communication Standard, workers must have access to and understand MSDS on all hazardous substances to which they are exposed. Thus, it is important that you provide appropriate training and information to your employees and make sure they have available to them MSDS on any hazardous products in their workplace. The Dow Chemical Company sends MSDS on non-OSHA-hazardous as well as OSHA-hazardous products to its customers upon initial shipment (including samples) of all its products (whether or not they are considered OSHA-hazardous). If you do not have access to one of these MSDS, please contact your local Dow representative for an additional copy. Updated MSDS are sent upon revision to all customers of record. MSDS should be obtained from your suppliers of other materials recommended in this bulletin.

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PARALOID™ B-44 Solid Grade Thermoplastic Resin

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Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

CAUTION! Failure to maintain proper volume level when using immersion heaters can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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