



Technical Data Sheet

DOWSIL™ SD 4592 PSA

Features & Benefits

- Low curing temperatures

Composition

- Polydimethyl siloxane gum and resin dispersed in xylene/toluene
- Reactive organo-platinum complex dispersed in polysiloxane

Applications

- Manufacture of adhesive tapes, labels and transfer films
- Bonding substrates such as polyolefins

Typical Properties

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

Property	Unit	Result
Appearance		Colorless to pale-yellow, slightly hazy liquid
Diluent		Xylene/toluene
Viscosity at 25°C	mPa • s	40,000
Non-volatile content	%	60

Description

DOWSIL™ SD 4592 PSA is a silicone pressure sensitive adhesive that, when used with DOWSIL™ BY 24-741 Crosslinker and DOWSIL™ NC-25 Catalyst or DOWSIL™ SRX-212 Catalyst, offers the ability to prepare pressure sensitive tape constructions at low curing temperatures.

How to Use

DOWSIL™ SD 4592 PSA can be coated on backing material directly as itself and normally used with DOWSIL™ BY 24-741 Crosslinker (1 parts per hundred) and DOWSIL™ NC-25 Catalyst or DOWSIL™ SRX-212 Catalyst (0.9 parts per hundred). The following procedure is recommended for the preparation of coating bath. Equipment should be clean and dry, preferably constructed from stainless steel or glass. Disperse DOWSIL™ SD 4592 PSA in the process solvent. The suggested bath solids are 40 to 60% silicone on a weight basis.

1. Add DOWSIL™ BY 24-741 and disperse thoroughly.
2. Add solvent such as toluene and disperse thoroughly.
3. Add Pt catalyst DOWSIL™ NC-25 Catalyst or DOWSIL™ SRX-212 Catalyst disperse again.

How to Use (Cont.)

Application to backing materials is accomplished via conventional tape coating equipment. When diluting with any solvent, refer to the solvent vendor's safety data sheet for information on physical and health hazards associated with the solvent and use of ventilation, PPE, bonding and grounding or other measures that can minimize or eliminate these risks.

Curing

When used in the manufacture of adhesive tape, catalyzed DOWSIL™ SD 4592 PSA is normally coated onto flexible substrates such as polyester or polyolefin films. In this configuration, the adhesive can be cured at 100°C (212°F) for 3 minutes in a vented, continuous coating oven. Air flow patterns, air volume and velocity will have an impact on adhesive curing speed. If the cure speed needs to be increased or process oven temperatures lowered, the DOWSIL™ NC-25 Catalyst or DOWSIL™ SRX-212 Catalyst level can be increased by up to 1.2%.

Completeness of cure can be determined by laminating a test specimen to a stainless-steel panel, similar to a 180° peel test, and pulling the tape rapidly from the panel by hand. When completely cured, the adhesive will remain on the backing. If not fully cured, an adhesive residue will remain on the steel panel.

NOTE: The catalyst in this adhesive system is required to obtain pressure sensitive adhesive properties. It is also subject to contamination by peroxides and other materials. Clean all mixing and coating equipment and use dedicated new containers for mixing when possible.

Anchorage to Backing

To obtain optimum anchorage to tape backings, such as polyester and polyolefin films, it may be necessary to use a primer.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT 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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

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, dow.com or consult your local Dow representative.

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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