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## PRODUCT BULLETIN

March 2018

# DION<sup>®</sup> 31100-00

## Urethane Thickener

### DESCRIPTION

Dion<sup>®</sup> 31100-00 is a liquid-modified MDI (diphenylmethane diisocyanate) that serves as a urethane thickener and chain-extender for DION<sup>®</sup> ITP Hybrid resins. This product may be used for urethane thickening of hybrid SMC and pultrusion resins. In addition, it may be used as the urethane cross-linker for two-component reaction injection molding (RIM) resins.

### BENEFITS & FEATURES

- Imparts strength due to urethane thickener
- Adds toughness due to chain-extender
- High Flash Point due to solvent-free formulation

### PROPERTIES - LIQUID

Property <sup>(1)</sup>	Unit	31100-00
Viscosity <sup>(2)</sup>	cps	950
NCO Content by Weight	%	23.1

1) All properties at 25°C/77°F unless otherwise noted

2) Brookfield Viscometer RV Spindle #3 at 50 RPM

### APPLICATION

#### RECOMMENDED MELTING PROCEDURES

Small 50 lb. (22 kg) pails may be melted out in a hot air oven but, for the larger 500 lb. (225 kg) drums, the recommended procedure is to use a steam chest or hot-water bath. Electrical drum heaters are not recommended because of the risk of localized overheating. Incorrect melting procedures involving prolonged heat-treatment or local overheating of containers will lead to the formation of insoluble dimer. Dimer formation is minimized by rapid and uniform heating.

**Hot-Air Oven:** The temperature of the hot-air oven should be within the range of 70-80°C (158-176°F). The ovens must be fitted with adequate ventilation equipment. The pail, which must be placed in the oven supported above the floor to allow the hot air to circulate efficiently around it, should be shaken or rotated frequently. Under these conditions, complete melting of the components may take up to 15 hours.

**Steam Chest/Hot-Water Bath:** Place the drum, with the seal in place and firmly closed, in the heating area and adjust the temperature to about 80°C (176°F). In the case of a hot-water bath, where the heating is provided by means of an immersion heater, it is essential to provide some circulation of the water. The water level in the bath must remain below the top of the drum, i.e., the drum must not be totally submerged.



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It cannot be emphasized too strongly that water and steam must be rigorously excluded from contact with Dion® 31100-00. Before immersing the drum in water, it should be carefully inspected to be sure there are no punctures or other damage to the drum which would allow leakage of molten MDI or incursion of water. After about five hours, the drum is removed from the chest/bath, the top dried, and then the drum is rolled to homogenize the contents. The drum must be opened carefully to allow for pressure relief. It is very important that this procedure be carried out in a properly ventilated area and that the previously recommended eye, skin and respiratory protection be worn. A small amount of finely divided insoluble solid in the liquid product does not usually cause difficulties in handling or product performance. However, if necessary, the liquid product may be filtered through a suitable in-line filter. It is suggested that the filter vessel be of stainless steel with a suitable polypropylene filter bag. The lines should be heated and blown clear with nitrogen after use.

Additional information on handling and storing unsaturated polyesters is available in the Polynt-Reichhold application bulletin "Bulk Storage and Handling of Unsaturated Polyester Resins." For information on other Polynt-Reichhold resins, contact your sales representative or authorized Polynt-Reichhold distributor.

Each user must determine the suitability of this product to his/her particular mode of operation and intended end-use application. A Polynt representative will be available to assist in the proper selection of all Polynt-Reichhold products available for commercial use.

### **SHELF LIFE & STORAGE**

The shelf life of DION® 31100-00 is 120 days from the date of manufacture from Polynt. To maximize usage life and maintain optimum properties, resins and gel coats should be stored in the original closed container at temperatures below 23°C/73°F and away from ignition sources and sunlight. Keep containers sealed to prevent moisture pick-up and monomer loss.

### **SAFETY & WARRANTY**

To receive a copy of our safety and warranty information, please email [safetyandwarranty@polynt.com](mailto:safetyandwarranty@polynt.com).