



## Product Information

### **VORANOL™ 1010 L Polyol**

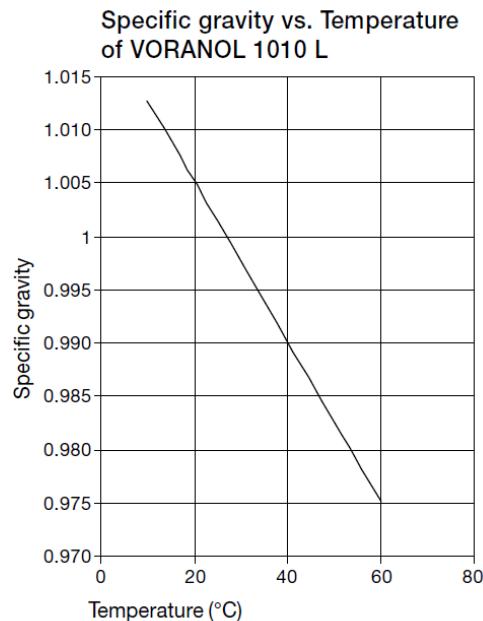
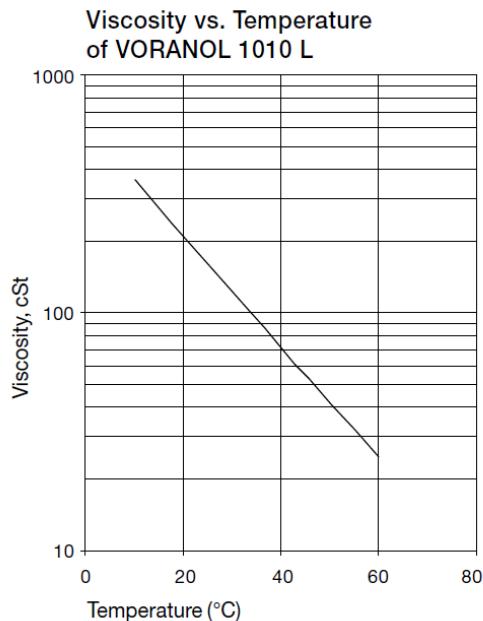
#### **Description**

VORANOL™ 1010 L Polyol is a polypropylene glycol, propyleneglycol initiated, 1000 molecular weight homopolymer diol. The product has been specially treated for use in the production of prepolymers, adhesives for food packaging applications where low odor is required. It also contains a modified antioxidant package to comply with food contact regulations.

VORANOL™ 1010 L Polyol can be easily blended with other polyols and additives giving almost unlimited options in performance and processing in the production of prepolymers for coatings, adhesives and sealants with a variety of end uses such as wood glues, sport tracks and laminates.

Typical Properties	Units	Limits	Test Methods
Appearance / physical state		Clear liquid, viscous	
Hydroxyl number	mg KOH/g	106–114	ASTM D4274-94d
Water, max.	%	0.050	ASTM E203-96
Acid number, max.	mg KOH/g	0.050	DOWM 100387-TE95A
Color, max.	APHA	30	ASTM D4890-93
pH (6 H <sub>2</sub> O / 10 Isopropanol)		6.0–7.5	AOD-AM-82-031
Viscosity, 25°C	cSt	135–155	ASTM D445-94
Viscosity, 40°C	cSt	68–73	ASTM D445-94
Viscosity, 100°C	cSt	10.5–11.5	ASTM D445-94
Viscosity, 25°C	mPa.s	140	ASTM D445-94
Unsaturation, max.	meq/g	0.030	ASTM D4671-93
Potassium & sodium, max.	ppm	5.0	AOD-S
Antioxidant (Irganox <sup>1</sup> 1076)	ppm	500	DOWM 101520-TE95A
Antioxidant (BHT <sup>2</sup> max.)	ppm	< 25	DOWM 101520-TE95A
Average molecular weight		1000	
Specific gravity, 25/25°C		1.004	
Flash point, closed cup	°C	228	ASTM D93

1. Irganox is a trademark of Ciba Geigy
2. 2,6-Di tertiary Butyl Para Cresol. Is included in specification only to control contamination level.



## Safety Considerations

Safety Data Sheet [SDS] for VORANOL™ 1010 L Polyol is available from The Dow Chemical Company. SDS is provided to help customers satisfy their own handling, safety and disposal needs, and those that may be required by locally applicable health and safety regulations. SDS sheets are updated regularly. Therefore, please request and review the most current SDS before handling or using any product. Copies of the SDS are available on request through your nearest Dow Sales office.

### Toxicity and First Aid

Most VORANOL™ polyols generally present no significant hazard in use when simple precautions are followed. However, some VORANOL™ polyols might present some hazards and before working with these products it is necessary to understand the hazards involved. See SDS for specific information. These polyols are commonly used in «urethane» systems that contain other more hazardous materials (e.g. isocyanates, amines). Anyone working with urethane systems must understand all the hazards involved in handling such systems and must establish and follow safe work procedures. Recommendations for handling, storage, and disposal of each formulation ingredients should be obtained from its supplier.

### Skin and Eyes

When working with VORANOL™ polyols, avoid contact of polyol with eyes or skin. Safety glasses are suggested for use with most polyols. However, some VORANOL™ polyols require that chemical workers' goggles be worn. See the product specific SDS, Section 8. Skin contaminated with polyols should be washed with soap and plenty of water. If polyol contacts eyes, flush with plenty of low-pressure flowing water. If irritation occurs from contact with polyols, get prompt medical attention.

### Ingestion

If a polyol is swallowed, give large amounts of water to dilute, but never give fluids or induce vomiting if patient is unconscious or is having convulsions. Obtain prompt medical attention.

## **Safety Considerations (Cont.)**

### **Inhalation**

VORANOL™ polyols when present alone do not present a significant problem from inhalation. If any ill effects should occur, get the affected person to fresh air and obtain prompt medical attention.

### **Fire and Explosion**

VORANOL™ polyols are organic materials that will burn under the right conditions of heat and oxygen supply. Store and handle polyols away from open flame or high heat sources. Fires can be extinguished with water fog or other conventional means.

Fire fighters should wear positive pressure, self-contained breathing apparatus.

While polyols have no known explosion limits, if heated to decomposition in a confined area, they may generate sufficient volatile gases to be an explosion hazard. Polyols are stable under normal conditions. Materials to avoid are oxidizing compounds. Hazardous polymerization may occur with isocyanates.

### **Spills and Disposal**

The preferred way of disposal is to incinerate under controlled conditions in accordance with all local and national environmental laws and regulations.

### **Customer Notice**

Dow encourages its customers to review their applications of Dow products from the standpoint of human health and environmental quality. To help ensure that Dow products are not used in ways for which they were not intended or tested, Dow personnel are willing to assist in dealing with ecological and product safety considerations. Your Dow representative can arrange the proper contacts.

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