

ELVANOL® 75-15

POLYVINYL ALCOHOL

DESCRIPTION

Elvanol® 75-15 is a unique, medium low viscosity, fully hydrolyzed copolymer grade of polyvinyl alcohol. Its unique structure imparts improved viscosity stability and gel resistance to aqueous solutions while maintaining excellent film properties and adhesive strength typical of fully hydrolyzed grades. Below are the typical properties of Elvanol® 75-15.

Typical Properties of Elvanol® 75-15

Viscosity, cps ¹	11.6-15.4
Solution, pH	5.0-7.0
Percent hydrolysis ²	Standard hydrolysis does not apply
Volatiles, wt. % max.	5.0
Ash, wt. % max. ³	0.70

¹ Determinated at 20°C (68°F), by Hoeffprier falling ball method, bone dry basis

² Elvanol® 75 -15 is a copolymer of PVA and MMA and thus cannot be classified as a partially or fully hydrolyzed homopolymer. The hydrolysis reaction is taken to completion (less than residual 2% acetate groups), but the effect of the copolymer causes Elvanol® 75 -15 to act like a partially or intermediately hydrolyzed homopolymer. For more details, ask for Tech Talk #33

³ Dry basis, calculated as % Na₂O

RESIN CHARACTERISTICS

As illustrated below, solutions of Elvanol® 75-15 exhibit little tendency to increase in viscosity during storage. Solutions of Elvanol® 75-15 are much more resistant to temperature variation in that they develop essentially no gel structure if chilled lower than room temperature.

VISCOSITY STABILITY OF 12% AQUEOUS SOLUTIONS

Viscosity of 25°C (77°F), mPa.s (cP)¹

	1 day	10 days	3 wks	4 wks	6 wks
Elvanol® 75-15	758	764	774	780	800
Visible gel structure	None	None	None	None	None

Viscosity of 10°C (50°F), mPa.s (cP)¹

	1 day	10 days	3 wks	4 wks	6 wks
Elvanol® 75-15	1422	1668	1650	1650	1618
Visible gel structure	None	None	None	None	None

¹ Brookfield, Model LVF, 60 rpm

SUGGESTED USES

Elvanol® 75-15 is suggested for evaluation wherever the high film strength and oil, grease and solvent resistance associated with higher viscosity, fully hydrolyzed polyvinyl alcohol are desired, but a lower solution viscosity and gel resistance are needed. The viscosity stability of Elvanol® 75-15 solutions makes it attractive for use in wet adhesives that require long term storage stability and which must withstand temperature variations, either in storage or during shipment. Gel resistance and excellent binding properties of Elvanol® 75-15 suggest its use as a secondary, or even a principle binder, in the manufacture of joint cements.

FDA STATUS

Elvanol® 75-15 polyvinyl alcohol complies with U.S. Food and Drug Administration (FDA) Regulations under the following Sections of Title 21 CFR, and may be used in contact with food, subject to the limitations and requirements therein:

■ 175.105 - Adhesives

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SAFETY & HANDLING

Read and understand the Safety Data Sheet (SDS) before using this product. Elvanol® 75-15 is technical quality polyvinyl alcohol. It is not recommended for inclusion in any food or preparation that might be taken internally.

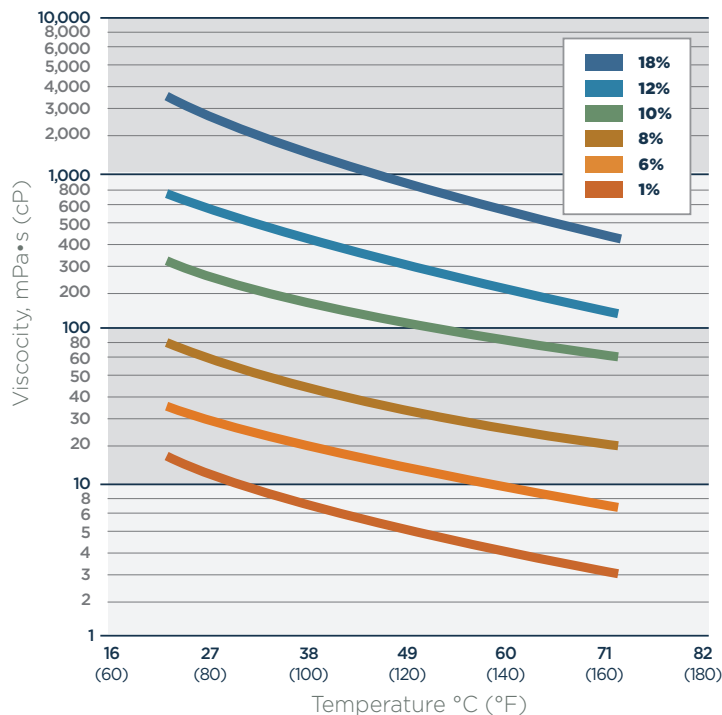
Under certain conditions of use, dust may be formed from Elvanol® polyvinyl alcohol. Kuraray recommends that dust from Elvanol® be treated as a nuisance dust, which is regulated by the Occupational Safety and Health Administration (OSHA) under Title 29, Code of Federal Regulations, Section 1910.1000. Under this section, an employee's exposure to nuisance dust shall be limited to 15 milligrams per cubic meter (mg/m^3) of total dust and $5 \text{ mg}/\text{m}^3$ of respirable dust on a time-weighted average in any 8-hour shift of a 40-hour week.

The Kuraray limit for polyvinyl alcohol exposure to nuisance dust is $10 \text{ mg}/\text{m}^3$, and for respirable dust is $5 \text{ mg}/\text{m}^3$. If excessive concentrations of dust are encountered, a mask or respirator and goggles should be worn. The mask or respirator should comply with Section 1910.134 of the OSHA regulations; the goggles should comply with Section 1910.133.

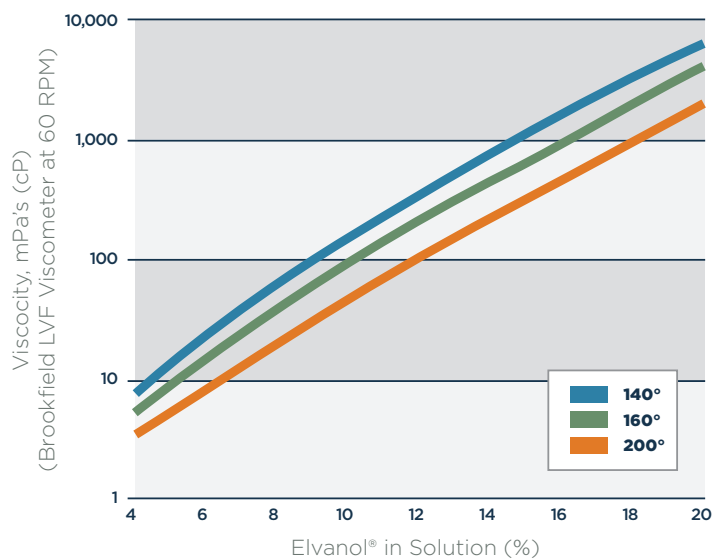
For bulk storage and handling of Elvanol® (e.g. storage silos) refer to Elvanol® Bulk Storage and Handling Safety Guide.

Elvanol® may be disposed of by incineration or landfill. However, any disposal method must be in compliance with all applicable local, state and federal regulations.

TEMPERATURE VS. VISCOSITY - ELVANOL® 75-15



EFFECT OF CONCENTRATION ON VISCOSITY OF ELVANOL® 75-15



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AMERICAS

Kuraray America, Inc.

2625 Bay Area Blvd., Ste 600
Houston, TX 77058 USA
Tel: (800) 423-9762
Fax: (281) 283-1722

Kuraray South America Ltda.

Al. Campinas, 977 - 5º andar,
sala 51 - CEP 01404-001 -
Jd. Paulista - São Paulo -
SP - Brasil
Tel: +55-11-2615-3531
Fax: +55-11-2615-3529

www.kuraray.us.com

ASIA

Kuraray Co., Ltd.

Ote Center Building, 1-1-3,
Otemachi, Chiyoda-ku,
Tokyo 100-8115, Japan
Tel: +81-3-6701-1000
Fax: +81-3-6701-1005

EUROPE

Kuraray Europe GmbH

Philipp-Reis-Straße 4
D-65795 Hattersheim am
Main Germany
Tel: +49-69-305-85300
Fax: +49-69-305-85399

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