

EXCEVAL™

Technical data sheet

Characteristics

EXCEVAL™ grades with varying degrees of polymerization, hydrolysis and viscosity.

Recommended Uses

Ranging from stabilizer for emulsion and suspension polymerization, coating agent for paper, textile sizing material, melting process and gas barrier coating.

Form supplied

Granules / fine powder with defined grain size.

Specifications

The data are determined by our quality control for each lot prior to release.

EXCEVAL™ Grades

Type	Grade [EXCEVAL™]	Viscosity ¹⁾ [mPa·s]	Hydrolysis [mol.-%]	Volatile Max [%]	Ash Max ²⁾ [%]	pH
Super Hydrolyzed	HR-3010	12.0 - 16.0	99.0 - 99.4	5.0	0.4	5.0 - 7.0
Fully Hydrolyzed	RS-4104	3.5 - 4.5	98.0 - 99.0	5.0	0.4	4.0 - 7.0
	RS-2117	25.0 - 30.0	97.5 - 99.0	5.0	0.4	5.0 - 7.0
	RS-1113	15.5 - 21.0	97.0 - 98.0	5.0	0.4	5.0 - 7.0
	RS-2817SB	23.0 - 30.0	95.5 - 97.5	5.0	0.4	5.0 - 7.0
Medium Hydrolyzed	RS-1717	23.0 - 30.0	92.0 - 94.0	5.0	0.4	5.0 - 7.0
	RS-1713	15.5 - 21.0	92.0 - 94.0	5.0	0.4	5.0 - 7.0

Note: 1) Viscosity is measured at 4% aqueous solution at 20°C determined by Brookfield synchronized-motor rotary type.
2) Ash content is measured at dry basis as Na₂O.

Properties and uses

EXCEVAL™ is a new water soluble polymer with the original technology from Kuraray. It has been on sale as a high performance polymer since 1999, with a huge market share now. EXCEVAL™ has excellent water resistance, solution stability and gas barrier.

EXCEVAL™ is controlled in hydrophobic-hydrophilic balance and provides good water resistance, sufficient viscosity stability of its aqueous solution and water solubility together.

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EXCEVAL™ can be used for excellent high water resistant PVAc emulsion. 1-component non formalin D3 adhesive without any cross-linking system can be achieved by using EXCEVAL™.

Due to its high water-resistance, EXCEVAL™ HR-3010 and RS-2117 can achieve D3 level standard emulsion without using any cross linker. With using cross linker for EXCEVAL™ polymerization system, even RS-1717, the medium hydrolyzed EXCEVAL™ can achieve D3 level high water resistant emulsion.

Besides, the high barrier performance of EXCEVAL™ has shown excellent performance in paper application, where normally conventional PVOH is used.

Processing

Preservation

Like any other polyvinyl alcohol, EXCEVAL™ in the form of an aqueous solution can be attacked by microorganisms under certain conditions. In the acidic pH range the main organisms reproduced are the fission fungi, whilst bacteria grow most readily in a neutral to weakly alkaline medium. The solution can be preserved from any microorganism attack by adding a preservative. Quantities of about 0.01 - 0.20 % by weight preservative, relative to the EXCEVAL™ solution, are generally sufficient. Compatibility and efficiency must be tested. Information on the quantity to be used is available from the suppliers.

It is advisable for the EXCEVAL™ solution to be prepared and stored in clean containers. Considering the resistance that may be shown by some microorganisms to the preservatives employed, the dissolving vessel in particular, together with the filling equipment (pipes, valves, tubing etc.), needs to be kept clean. Any skins or incrustations should be removed. In the event of complications the possibility of changing to a different preservative must be considered.

Certain applications for EXCEVAL™ in solution (food packaging etc.) require the preservatives employed to be of approved types and physiologically inert. In such instances it is essential for the relevant legal regulations regarding physiological effects to be taken into account.

Storage

EXCEVAL™ can be stored for an unlimited period of time under appropriate conditions. EXCEVAL™ should be strictly kept away from wet areas and naked flames. In order to avoid block formation with the moisture, EXCEVAL™ should be stored in its original packs in closed, dry rooms and at room temperature.

Industrial Safety and Environmental Protection

Not classified as a dangerous substance or preparation according to the current criteria of chemical legislation. A safety data sheet is available on request.

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Special remarks

Status as governed by foodstuffs legislation

Refer to the KURARAY POVAL™ webpage for regulatory information.

Sold by Kuraray Trading Co.,Ltd Resin Sales Department Poval Division

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Manufactured by Kuraray Co., LTD.

<https://www.kuraray-poval.com/ja/>