

KURARAY POVAL™ — Biodegradable LV-Grades for Personal Care Applications

kuraray

Kuraray Poval™

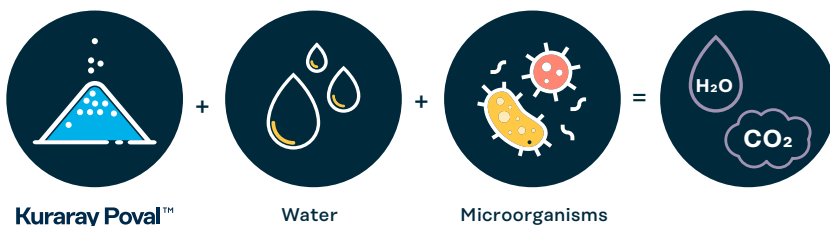
KURARAY POVAL™

KURARAY POVAL™ LV-Grades for personal care

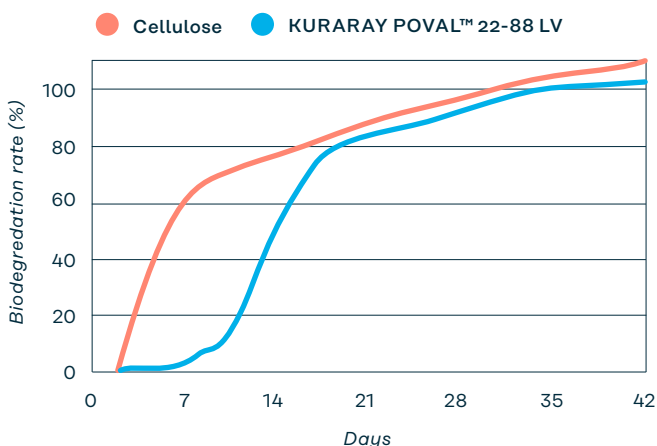


KURARAY POVAL™ LV-grades have been specially designed for cosmetic and personal care applications. For these grades we have compiled adapted regulatory brochures/dossiers and give statements on: Nanomaterials, Heavy metals, Micro-plastics, Fragrances, Methanol, Animal testing and Biodegradation. KURARAY POVAL™ LV-grades have a specified Methanol (MeOH) content below 0.3% ex Germany and even below 0.1% ex Japan. Polyvinyl alcohol (PVOH) is a nonionic water soluble polymer that is well suited for water based cosmetic and personal care products. Polyvinyl alcohol is a linear and crystalline polymer that is also biodegradable under the right conditions.

Biodegradability of KURARAY POVAL™ LV-grades



Polyvinyl alcohol is recognized as one of the very few vinyl polymers which is water soluble and biodegradable in water in the presence of suitably acclimated micro-organisms. Also KURARAY POVAL™ LV is inherently biodegradable according to ISO 14851. This has been confirmed by internal tests as well as at external laboratories.



Functionalities

- ✓ Film former
- ✓ Adhesion promotor
- ✓ Encapsulator
- ✓ Emulsifier
- ✓ Lubricant
- ✓ Viscosity controller



Applications

- ✓ Skin care (peel off mask, etc.)
- ✓ Color cosmetics (mascara, brows, etc.)
- ✓ Sun care
- ✓ Hair care (hair colorant, shampoo, etc.)



Methanol ≤0.3 wt% (product made in Germany)

Grade name (tentative)	Viscosity ¹⁾ [mPa•s]	Degree of hydrolysis [mol%]	Methanol ²⁾ content [%]	Ash ³⁾ content [%]	pH
KURARAY POVAL™ 4-88 LV	3.5 - 4.5	87.0 - 89.0	≤ 0.3	≤ 0.4	5.0 - 7.0
KURARAY POVAL™ 26-88 LV	24.5 - 27.5	87.0 - 89.0	≤ 0.3	≤ 0.4	5.0 - 7.0
KURARAY POVAL™ 40-88 LV	38.0 - 42.0	87.0 - 89.0	≤ 0.3	≤ 0.4	5.0 - 7.0
KURARAY POVAL™ 49-88 LV	45.0 - 52.0	87.0 - 89.0	≤ 0.3	≤ 0.4	5.0 - 7.0

Methanol ≤0.1 wt% (product made in Japan)

KURARAY POVAL™ 22-88 LV	20.5 - 24.5	87.0 - 89.0	≤ 0.1	≤ 0.4	5.0 - 7.0
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1) of a 4% aqueous solution at 20°C DIN 53015 / ISO-15023-2 2) Kuraray method by HS-GC 3) calculated as Na₂O

Case study – facial / peel off mask

This formulation gives peel-off masks with even coverage, easy to apply, quick drying time and mechanical properties allowing the removal of the masks in one piece. It represents a good starting point for the formulation of commercial peel-off masks.

PH	INCI Name	Product	Mask (%W/W)
A	Water	WATER	59.0
	Polyvinyl Alcohol	KURARAY POVAL™ 26-88 LV	2.0
	Polyvinyl Alcohol	KURARAY POVAL™ 49-88 LV	10.0
	Isopentyldiol	ISOPENTYLDIOL	5.0
B	Water	Water	5.0
	Isopentyldiol	ISOPENTYLDIOL	2.0
	PEG-32	POLYGLYKOL 1500S	5.0
C	Pentylene glycol	Microcare® Emollient PTGJ	1.5
	Phenoxyethanol	Phenoxyethanol-S	0.2
	Ethylhexylglycerin	ADEKA NOL GE-RF	0.3
D	Alcohol	ALCOHOL	10.0

Appearance:
Clear

Process:
1. Mix and heat phase A at 80 °C,
2. Mix and heat phase B at 80 °C and add it to phase A (1200 rpm, 10 mins),
3. Cool down to room temperature and add phases C and D.

Adding value to your products – worldwide

KURARAY POVAL™, EXCEVAL™, ELVANOL™, and MOWIFLEX™ are the trademarks for polyvinyl alcohols (PVOH) made by Kuraray. Their key characteristics — outstanding film-forming properties and high binding strength — add real value to your products. Our polymers are water-soluble, highly reactive, crosslinkable and foamable. They have high pigment binding capacity, protective colloid characteristics and thickening effects. The physical and chemical properties of KURARAY POVAL™ make it ideal for a wide variety of applications, ranging from adhesives through paper and ceramics to packaging films. Many of our polymers are food contact-approved and thus suitable for food applications.

Kuraray produces its wide range of KURARAY POVAL™ grades in Japan, Singapore, Germany and the USA. Kuraray's global production and service network make us your partner of choice for innovative high-quality PVOH resins.



Kuraray Poval™

PLEASE CONTACT US
kuraray-poval.com

kuraray

HEADQUARTERS

Kuraray Co., Ltd.

Tokiwabashi Tower
2-6-4, Otemachi
Chiyoda-ku
Tokyo, Japan 100-0004

Kuraray America, Inc.

3700 Bay Area Blvd.,
Suite 680 Houston, TX 77058
United States of America

Kuraray Asia Pacific Pte., Ltd.

1 North Buona Vista Link
#12-10/11, Elementum
Singapore 139691

Kuraray Europe GmbH

Philipp-Reis-Str. 4
65795 Hattersheim am Main,
Germany

Kuraray China Co., Ltd.

Unit 2207, 2 Grand Gateway
3 Hongqiao Road, Xuhui District, Shanghai
200030, China

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