IMERCARE®
PARIS

ImerCare® Opaque
ImerCare® Opaline

A new, natural, mineral range for superior optical properties in shower gels and shampoos

- Pearlescence / opacity
- Natural, eco-friendly
- One-size-fits-all solution

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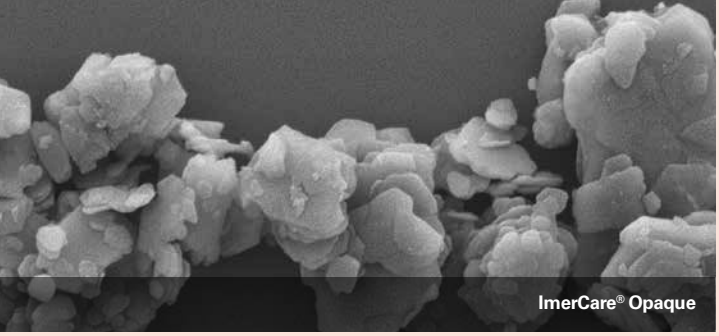
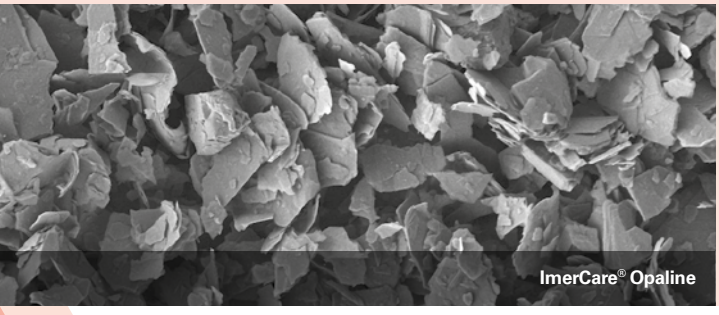




New, natural ImerCare® Opaque and Opaline confer opacity and pearlesence to gels and shampoos.

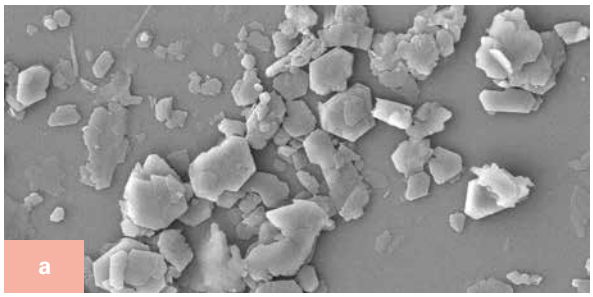
ImerCare® Opaque is a kaolin-based opacifier that provides high opacity and whiteness.

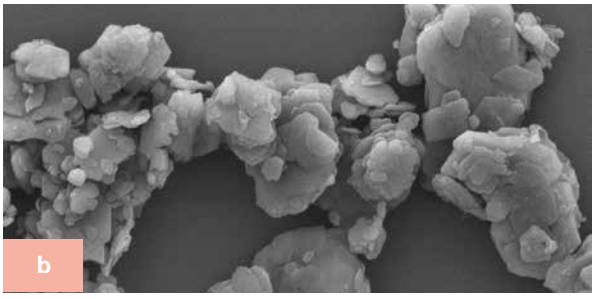
ImerCare® Opaline is a talc-based pearlising agent that provides a lustrous pearlescent effect.

Both ImerCare® Opaque and ImerCare® Opaline can be used at all pH levels and with all ingredients, even ionic, making them a one-size-fits-all solution for formulators.

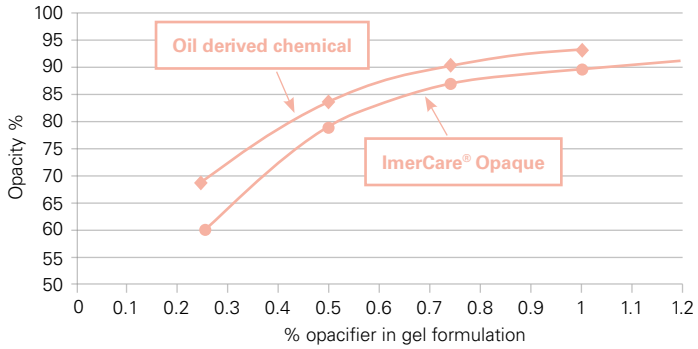
ImerCare® Opaque: a new, natural, eco-friendly kaolin-based opacifier

Compared to conventional kaolins (a), ImerCare® Opaque (b) has an innovative particle shape that enhances whiteness and opacity in the formulation.





Opacity performance: natural, mineral ImerCare® Opaque vs oil-derived chemical opacifier



A slightly higher loading level of ImerCare® Opaque is required to obtain comparable opacity to an oil-derived opacifier.

Opacity measured using Colorimeter Minolta 3700d (illuminant D65/10°). 1cm high containers filled with gels with different loading levels of ImerCare® Opaque were placed on a opacity chart. Whiteness was measured both on the black and white backgrounds to obtain the contrast rate:

$$\frac{\text{whiteness on black background}}{\text{whiteness on white background}} \times 100$$

Effect of 0.75% ImerCare® Opaque in a clear gel formulation: ImerCare® Opaque confers a rich, creamy optical effect to beauty care gels.

Formulation guidelines

- ImerCare® Opaque can be used in all formulations requiring opacity.
- Recommended loading level is 0.5 to 1 wt% to obtain similar opacity performance to oil-derived chemicals.
- The rheology of the formulation containing ImerCare® Opaque may need to be controlled by adding adequate amounts of thickener to maintain particle suspension (see formulation tables below).

Opaque shower gel with synthetic thickener formulation

Phase	INCI name	Commercial name	%
A	Aqua	-	QSP 100
	Acrylates Copolymer	Carbopol® Aqua SF-1 (Lubrizol)	5.0
	Glycerin	-	1.0
B	Sodium laureth sulfate	Texapon® NSO UP (BASF)	45.0
	Sodium hydroxide	10% in a water solution	3.0
C	Aqua (and) methylisothiazolinone	Microcare® MT (Thor)	0.1
	Sodium chloride	-	2.0
D	Aqua	-	0.1
	Glycerin	-	2.0
	Kaolin	**ImerCare® Opaque (Imerys)**	**0.75**
E	Citric acid	50% in a water solution	QSP pH

Procedure

- Mix phase A ingredients until homogeneous.
- Gently mix phase B ingredients into phase A one after another.
- Neutralise batch with sodium hydroxide (solution at 10%) and mix until homogeneous.
- Stir in phase C ingredients one after another.
- Premix phase D ingredients and add to the blend.
- Adjust pH using E if necessary.

Characteristics

- Appearance: white and opaque
- pH: 6.0
- Viscosity: 1700 mPa.s (Brookfield, spindle 3, 20 rpm, 23°C)
- Stability: 3 months at 23°C, 40°C, 4/40°C (thermal cycle)

Opaque shower gel with natural thickener formulation

Phase	INCI name	Commercial name	%
A	Aqua	-	QSP 100
	Glycerin	-	1.0
	Xanthan gum	Rhodicare® T (Rhodia)	1.0
B	Aqua (and) decyl glucoside (and) Cocamidopropyl betaine (and) sodium chloride	Oramix™ GB10 (SEPPIC)	30.0
	1,2-Hexanediol (and) propanediol (and) Caprylhydroxamic acid	Spectrastat PHL (Inolex)	3.0
C	Aqua	-	0.1
	Glycerin	-	2.0
	Kaolin	**ImerCare® Opaque (Imerys)**	**0.75**
D	Aqua	-	1.0
	Sodium benzoate	-	0.5
	Citric acid	50% in a water solution	

Procedure

- Pre-wet xanthan gum with glycerin until homogeneous and stir in water.
- Gently mix phase B ingredients into phase A one after another.
- Premix phase C and add to the blend.
- Weigh phase D and stir until solubilisation of sodium benzoate.
- Add phase D to the blend and control the pH.

Characteristics

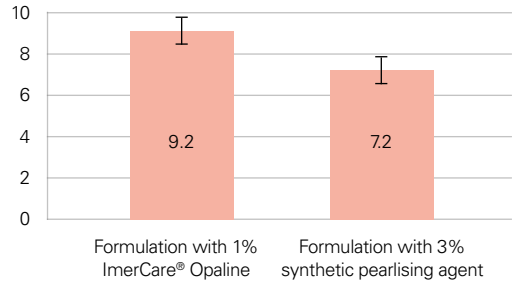
- Appearance: cream coloured and opaque
- pH: 5.1
- Viscosity: 3900 mPa.s (Brookfield, spindle 4, 20 rpm, 23°C)
- Stability: 3 months at 23°C, 40°C, 4/40°C (thermal cycle)

ImerCare® Opaline: a new, natural, eco-friendly talc-based pearlising ingredient

Pearlescence: natural, mineral ImerCare® Opaline compared to synthetic pearlising agent

The pearlising effect of ImerCare® Opaline is significantly better than with a synthetic pearlising agent (glycol stearate derivative) as shown is the graph below.

Pearlising effect of 1% ImerCare® Opaline vs. 3% synthetic pearlising agent in a shower gel formulation



To measure the intensity of pearlescense, a sensory analysis was conducted with an expert panel of 20 people according to ISO 13299. The panelists assessed the pearlescence of two formulations on a scale of 0 to 10 (test in pairs). The two formulations tested were the "Blue pearl shower gel formulation" (see formulation guidelines) containing 1% ImerCare® Opaline and the same formulation with 3% synthetic pearlising agent (glycol stearate derivative).

Blue pearl shower gel formulation containing 1% ImerCare® Opaline

Opacity: natural, mineral ImerCare® Opaline imparts opacity to formulations

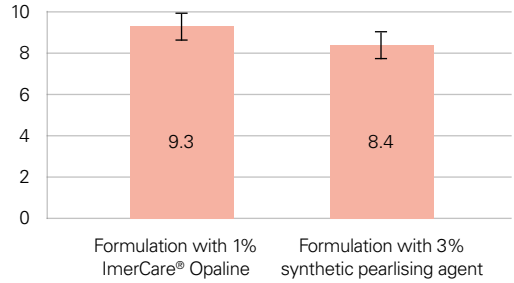
1% ImerCare® Opaline confers opacity to clear gel formulations.

1% ImerCare® Opaline confers pearlescence and opacity to clear gel formulations.

Opacity measured using Colorimeter Minolta 3700d (illuminant D65/10°). 1cm high containers filled with gels with different loading levels of ImerCare® Opaque were placed on an opacity chart. Whiteness was measured both on the black and white backgrounds to obtain the contrast rate:

$$\frac{\text{whiteness on black background}}{\text{whiteness on white background}} \times 100$$

Opacifying effect of 1% ImerCare® Opaline vs. 3% synthetic pearlising agent in a shower gel formulation



To measure opacity, a sensory analysis was conducted with an expert panel of 20 people according to ISO 13299. Panelists assessed the opacity of two formulations on a scale of 0 to 10 (test in pairs). The two formulations tested were the "Blue pearl shower gel formulation" (see formulation guidelines) containing 1% ImerCare® Opaline and the same formulation with 3% synthetic pearlising agent (glycol stearate derivative).

Formulation guidelines

- ImerCare® Opaline can be used in all formulations requiring a pearlescent effect.
- Recommended loading level is 0.5 to 1.5 wt%.
- The rheology of formulations containing ImerCare® Opaline may need to be controlled by adding adequate amounts of thickener to maintain particle suspension (see formulation tables).
- The replacement of the synthetic pearlising agent by ImerCare® Opaline has no impact on foam quality and quantity (results from expert panel available upon request).

Blue pearl shower gel with synthetic thickener formulation

Phase	INCI name	Commercial name	%
A	Aqua	-	QSP 100
	Acrylate copolymer	Carbopol® Aqua SF-1 (Lubrizol)	10.0
	Glycerin	-	1.0
B	Sodium laureth sulfate	Texapon® NSO UP (BASF)	45.0
	Sodium hydroxide	10% in a water solution	3.0
C	Aqua (and) methylisothiazolinone	Microcare® MT (Thor)	0.1
	Sodium chloride	-	2.0
D	Aqua	-	0.1
	Glycerin	-	2.0
	Talc	**ImerCare® Opaline (Imerys)**	**1.0**
E	Citric acid	50% in a water solution	QSP pH
	Sodium benzotriazolyl butylphenol sulfonate (and) buteth-3 (and) tributyl citrate	Cibafast® H liquid (BASF)	0.3
	CI 42090	Unicert Blue 05601-J (Sensient), 0.1% in water	0.7

Procedure

- Add phase B to phase A under low shear mixing until homogeneous.
- Incorporate phase C ingredients one after another and mix until homogeneous (neutralisation at pH > 6.5-7.0)
- Premix phase D components, add to the blend whilst gently stirring until homogeneous.
- Add the phase E components one after another and adjust the pH if necessary (5.8<pH<6.2).

Characteristics

- Appearance: blue and pearlescent
- pH: 6.0
- Viscosity: 11 900mPa.s (Brookfield, spindle 5, 20 rpm, 23°C)

Opaque shower gel with natural thickener formulation

Phase	INCI	Commercial name	%
A	Aqua	-	QSP 100
	Glycerin	-	1.0
	Xanthan gum	Rhodicare® T (Rhodia)	1.0
B	Aqua (and) decyl glucoside (and) Cocamidopropyl betaine (and) sodium chloride	Oramix™ GB10 (SEPPIC)	30.0
	1,2-Hexanediol (and) propanediol (and) Caprylhydroxamic acid	Spectrastat PHL (Inolex)	3.0
C	Aqua	-	0.1
	Glycerin	-	2.0
	Talc	**ImerCare® Opaque (Imerys)**	**1.5**
D	Aqua	-	1.0
	Sodium benzoate	-	0.5
	Citric acid	50% in a water solution	0.25

Procedure

- Pre-wet xanthan gum with glycerin until homogeneous and stir in water.
- Gently mix phase B ingredients into phase A one after another.
- Premix phase C and add to the blend.
- Weigh phase D and stir until solubilisation of sodium benzoate.
- Add phase D to the blend and control the pH.

Characteristics

- Appearance: cream coloured and pearlescent
- pH: 5.1
- Viscosity: 3500mPa.s (Brookfield, spindle 3, 20 rpm, 23°C)

The highly pearlescent effect provided by ImerCare® Opaline enhances the consumers' perception of well-being and luxury.

Properties of ImerCare® Opaline and ImerCare® Opaque

	INCI name	Size (d50) Sedigraph ISO 13317-3	Whiteness (Y) Minolta CR 300, D65, 2°	Oil absorption ISO 787-5	pH (20% in water)	Key function in application
ImerCare® Opaque	Kaolin	0.6	93	87	8.6	Opacifier
ImerCare® Opaline	Talc	2	92	50	5.7	Pearlescent

Approved by ECOCERT RAW MATERIAL

COSMOS APPROVED

Compliance

All Imerys cosmetic products are natural, pure and chemically inert. These attributes enable them to be used in cosmetic products that comply with European cosmetic directive (EC) n°1223/2009.

Cosmos

ImerCare® Opaque and ImerCare® Opaline comply with industry microbiological standards without resorting to irradiation. They are not treated with chemicals during processing. They are Cosmos approved. This accreditation underscores the naturalness of the minerals selected and produced by Imerys for the cosmetics industry.

Design: couleurcitron.com

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