

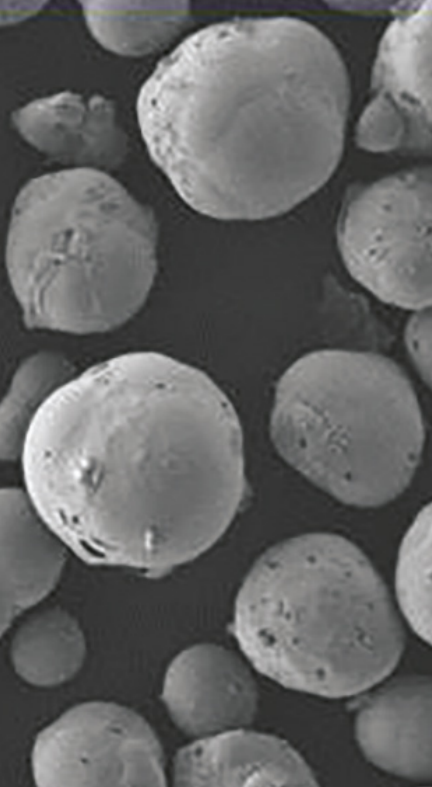
IMERCARE®
P A R I S

ImerCare® P-Scrub & ImerScrub™

- Gentle exfoliation in face and body scrubs
- Eco-friendly solution
- Boosts anti-dandruff shampoo performance
- White and colored ranges



IMERYS



Perlite products are made from a volcanic rock which contains 2-6% water in its inner structure. When heated to around 900°C, the water trapped within the structure is vaporized, causing the material to expand and form a spherical structure.

The white **ImerCare® P-Scrub** range and new colored **ImerScrub™** range have been developed using patented engineered technology which combines the natural hardness of the volcanic rock with the softness of these spherical particles to provide a gentle, physical exfoliation effect.

ImerCare® P-Scrub, the white volcanic pearl for gentle exfoliation

Product range and applications

Application	Recommended grades	Scrub intensity
Anti-dandruff shampoo	ImerCare® 90P-Scrub	Soft exfoliation ↓ Strong exfoliation
Lip exfoliation	ImerCare® 120P-Scrub	
Hand exfoliation	ImerCare® 190P-Scrub	
Face exfoliation	ImerCare® 190P & 270P-Scrub	
Body exfoliation	ImerCare® 270P & 400P-Scrub	
Foot exfoliation	ImerCare® 800P-Scrub	

Product name	Color and Whiteness (Y)	d90 (µm)	Particle shape
ImerCare® 90P-Scrub	White Y = 75	90	Angular
ImerCare® 120P-Scrub		120	Angular
ImerCare® 190P-Scrub		190	Very spherical
ImerCare® 270P-Scrub	White Y = 70	270	
ImerCare® 400P-Scrub		400	
ImerCare® 800P-Scrub	White Y = 60	800	Spherical



ImerCare® 190P-Scrub, ImerCare® 270P-Scrub and ImerCare® 400P-Scrub – an eco-friendly solution for exfoliation products

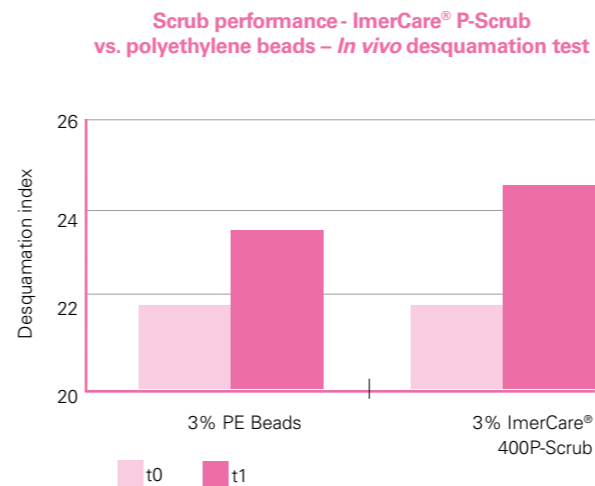
ImerCare® 190P-Scrub, 270P-Scrub and 400P-Scrub grades have been developed in response to growing need from the personal care industry for natural, eco-friendly alternatives to plastic microbeads currently used in scrub applications.

ImerCare® P-Scrub stimulates cell renewal by reducing the thickness of the top layer of skin cells. Used regularly, ImerCare® P-Scrub results in smoother, healthier, glowing skin. It also enhances foaming, generating a creamier lather.

The optimum formulation rate of ImerCare® P-Scrub in the formulation is between 2 and 5%.

ImerCare® P-Scrub vs. plastic microbeads

For an equivalent incorporation rate (3%), scrub performance with ImerCare® P-Scrub is significantly better than with plastic microbeads, as shown in the graph below.



Application of 2µl of shower gel on wet legs. The gel was rubbed onto the skin for one minute and then rinsed off with a cotton pad. Samples of corneocytes were taken using adhesive test strips before and after applying the shower gel. Each D-squama® was analysed with Monaderm's software "Quantisquam". If the shower gel improves desquamation, the number of corneocytes after one minute (t1) is greater than at t0.

Recommended ImerCare® P-Scrub incorporation rates

Given the difference in apparent density between ImerCare® P-Scrub (≈ 0.6) and plastic microbeads (≈ 1), the quantity of ImerCare® P-Scrub required in the formulation can be approximately halved.

Formulation guidelines

Scrub shower gel with ImerCare® 400P-Scrub

Phase	INCI	Commercial name	%
A	Water	-	Qsp 100
	Acrylate copolymer	Carbopol® Aqua SF-1 (Lubrizol)	0.8
B	Sodium cocoyl glutamate	Plantapon® ACG HC (BASF)	20.0
C	Sodium hydroxide (solution at 10%)	-	3.0
D	Decyl glucoside	Plantacare® 2000 UP (BASF)	10.0
E	Coco-betaine	Dehyton® AB 30 (BASF)	9.0
	Coco-glucoside (and) glyceryl oleate	Lamesoft® PO 65 (BASF)	0.5
	Caprylyl / Capryl Glucoside	Oramix™ CG110 (SEPPIC)	4.0
F	Citric acid	-	0.9
G	Perfume	-	0.5
H	Phenoxyethanol (and) ethylhexylglycerine	Euxyl® PE 9010 (Schülke & Mayr)	1.0
I	Perlite	ImerCare® 400P-Scrub (Imerys)	3.0
J	CI19140 + CI17200	Unicert yellow 08005-J and Unicert Red K7057	Qsp color

Procedure

- Hydrate Carbopol® in water (phase A).
- Add phase B to phase A under low shear mixing (50 rpm).
- Neutralize with sodium hydroxide drop by drop.
- Mix in phase D and then E until homogenous.
- Use citric acid to adjust the pH value of the batch to 5.5-6.0.
- Add colorants and preservatives.
- Incorporate ImerCare® 400P-Scrub at the end of the mixing process, avoiding high shear.

Aesthetic colored effect with ImerScrub™

ImerCare® has extended its scrub offering to include ImerScrub™, a new full range of spherical colored perlites. ImerScrub™ has been developed using patented technology to provide a refined, aesthetic function in formulations requiring a decorative effect.

ImerScrub™ is currently available in five different shades:



Physical properties and color index

ImerScrub™ 400P grades	Color	Color index	d50 (µm) Typical value	Density (g/L) Typical value
ImerScrub™ 400P Jade	Green	CI 77288	400	250
ImerScrub™ 400P Gold	Yellow	CI 77492		
ImerScrub™ 400P Amber	Orange	CI 77491, CI 77492		
ImerScrub™ 400P Coral	Pinkish red	CI 77491		
ImerScrub™ 400P Plum	Bordeaux	CI 77499, CI 77491		

Color stability tested under tough conditions

ImerScrub™ demonstrates durable color stability in typical shower gel formulations. Tests were conducted to assess color stability under long UV exposure conditions, with different surfactant systems and pH levels.

Tested parameter	Testing conditions
Surfactant stability test	Compatible with most anionic, non ionic and amphoteric surfactants
pH stability test	Stable in a wide range of pH (tested from 4.5 to 7.0)
UV stability test	Resistant to UV radiation (500h exposure) No need to add a UV filter to the formula



Shower gel containing 0.3% ImerScrub™ 400P Coral.

Formulation guidelines

To achieve an optimum refined aesthetic effect in the final formulation, the recommended loading level is 0.3 to 1 wt%. ImerScrub™ can be combined with the white ImerCare® P-Scrub range in all applications requiring both gentle exfoliation and a decorative effect.

Colored exfoliating cleansing gel with ImerScrub™ Coral

Phase	INCI Name	Ingredients	Function	%
A	Aqua	-	Solvent	q.s
	Disodium EDTA	-	Chelating Agent	0.2
	Glycerin	-	Humectant	6.0
	Phenoxyethanol (and) Ethylhexylglycerin	Euxyl PE 9010	Preservative	0.6
B	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	Carbopol Ultrez 20 Polymer (Lubrizol)	Thickener	1.0
C	Sodium Laureth Sulfate	STEOL CS-230 HA (Stepan)	Anionic Surfactant	20.0
	Decyl Glucoside	Plantacare 2000 UP (BASF)	Non Ionic Surfactant	6.0
D	Sodium Hydroxide	10% in a water solution	Polymer activator	3.0
E	Perlite	ImerCare® 400P-Scrub (Imerys)	Exfoliating agent	1.7
	Perlite	ImerScrub™ 400P Coral (Imerys)	Decorative agent	0.3
F	Sodium Hydroxide	10% in a water solution	pH adjuster	q.s

Procedure

- Weigh phase A components and
- Stop stirring. Sprinkle the Carbopol Ultrez 20 onto the blend and leave it to moisturize for 10 minutes.
- Stir until homogenized.
- Add the phase C components one after another.
- Add phase D to activate the thickener and obtain a gel.
- Incorporate ImerCare® 400P-Scrub then ImerScrub™ 400P Coral avoiding high shear.
- Adjust the pH to 5.8 using phase F.

ImerCare® 90P-Scrub to boost anti-dandruff shampoo performance

ImerCare® 90P-Scrub has been specifically developed with a soft exfoliation mechanism to remove dandruff, leaving the scalp feeling cleaner and more comfortable. It also boosts foam formation. The recommended incorporation rate of ImerCare® 90P-Scrub is 3 to 5%.

Panel test method and results

A panel of 23 adult volunteers with dandruff was formed. The subjects were required to wash their hair over a period of two weeks with two types of anti-dandruff shampoo:

1st week: three applications of shampoo not containing ImerCare® 90P-Scrub

2nd week: three applications of shampoo containing ImerCare® 90P-Scrub

Each week, the participants filled in an on-line questionnaire after the first application of shampoo and again after seven days.

Observations after first application of shampoo containing ImerCare® 90P-Scrub:

- Boosts dandruff removal
- Scalp feels cleaner and fresher
- Increases foam quantity

Observations after seven days of use and three applications of shampoo containing ImerCare® 90P-Scrub:

- Hair and scalp feel cleaner
- Improves efficiency on persistent dandruff
- Enhances scalp comfort

All tests were conducted by IDEA Clinic Company.

ImerCare® 90P-Scrub technology is the result of a seven month assessment program using clinical and in-vitro tests (study available upon request).



Procedure

- Mix phase B into phase A at room temperature until dispersed.
- Mix in phase C.
- Homogenize phase D and add to the mixture.
- Mix in the other ingredients one after another and mix until homogeneous.

Anti-dandruff shampoo with ImerCare® 90P-Scrub

Phase	INCI name	Commercial name	%
A	Water	-	Qsp 100
	Sodium laureth sulfate	Texapon® NSO (BASF)	24.0
	Decyl glucoside	Plantacare® 2000UP (BASF)	10.0
B	Acrylate copolymer	Carbopol® Aqua SF-1 (Lubrizol)	6.0
	Sodium hydroxide	-	1.9
C	Coco glucoside (and) glyceryl oleate	Lamesoft® PO 65 (BASF)	0.6
D	Dehydracetic acid (and) benzyl alcohol	Geogard® 221 (Lonza)	0.9
	Sodium phytate	Dermofeel® PA3 (Dr. Straetmans)	0.1
E	Polyglyceryl 10 laurate (and) aqua (and) citric acid	Dermofeel® G10LV (Dr. Straetmans)	1.2
	Perfume	-	0.6
	Coco betaine	Dehyton® AB 30 (BASF)	7.0
	Aqua (and) hydroxypropyl oxidized starch PG-trimonium chloride (and) starch hydroxypropyltrimonium chloride (and) sodium lactate (and) sodium chloride (and) urea (and) lactic acid (and) glycerin (and) perfume	Symbio® Quat (Dr. Straetmans)	1.5
	Cocamide MEA	Comperlan® 100 (BASF)	0.5
	Sodium chloride	-	0.5
	Citric acid (20%)	-	1.0
Perlite	ImerCare® 90P-Scrub (Imerys)	5.0	
Titanium dioxide	Kronos	0.1	



About Imerys

Imerys is the world leader in mineral-based specialty solutions for industry. We transform a unique range of minerals to deliver functional solutions that are essential to customers' products and manufacturing processes. With 300 scientists, eight research and technology centers, 21 market-focused regional laboratories and close ties with renowned research institutes, we lead the way in engineering minerals for industry.

About Imerys Performance Additives

Performance Additives is a division of Imerys. With over a hundred years' experience in the minerals business, we refine and engineer our minerals through various—often proprietary—processes that influence their concentration, size, shape, structure and surface chemistry to obtain the properties our customers require and to the highest standards of quality, consistency and reliability.

Our Personal Care team has in-depth knowledge of how minerals interact in cosmetic applications and a proven track record for developing new, value-added solutions for customers.

Our applications laboratories are equipped with a full range of analytical and cosmetics-specific equipment, enabling us to provide customers with bespoke formulation services and technical support.



MAKING A POSITIVE AND SUSTAINABLE DIFFERENCE

About ImerCare®

ImerCare® minerals benefit from the experience and expertise of several Imerys divisions.

The ImerCare® product range is derived from 100% natural kaolin, perlite, diatomaceous earth and talc grades which have been engineered to provide exactly the right properties in terms of exfoliation, matting, transparency, coverage, rheology absorption, and skin feel.

ImerCare® minerals are ideal for use in skin care, make-up, toiletries, hair care and oral care.

All ImerCare® grades are natural, chemically inert and can be used in bio cosmetics. They are processed so as to provide specific functional benefits in cosmetic formulations.

Integrating Sustainable Development into all we do

We believe that running a successful business whilst promoting environmental stewardship and corporate social responsibility go hand in hand. It is essential that future generations' needs are not compromised by our actions today. As such, we are committed to implementing the following principles:

Social

- **Safety and Health:** we promote the health and safety of our employees, contractors, customers, neighbours and consumers based on the three pillars of the Imerys Safety System: compliance, continuous improvement and communication.
- **Human Resources:** we develop our employees' skills and talents, promote workplace diversity and maintain good industrial relations by fostering an environment of mutual respect.
- **Communities:** we seek to build positive relationships with our neighbours and to make a lasting contribution to their social and economic development.
- **Human Rights:** we respect fundamental human rights set out in core international conventions and the Universal Declaration of Human Rights, taking specific actions to avoid child labour and forced labour.



Environment

- **Environmental Protection:** we work to minimise our environmental footprint by using raw materials and natural resources efficiently, preventing pollution, restoring the land and promoting biodiversity at our mining sites.
- **Green Innovation:** we factor environmental benefits into the research and development of our products, processes and services to reduce our environmental footprint throughout the product life cycle.

Product Stewardship

- We are committed to ensuring that our products are safe for people and the environment, employing best available technology and best-in-class procedures to ensure that our standards and practices meet or exceed legal requirements.

Corporate Governance

- We implement best corporate governance practices, conducting our business in an accountable and transparent manner and relying on external auditing and reporting to guarantee impartiality.



More information about our sustainable development policies and practices can be found on:

www.imerystalc.com

Compliance

All Imerys cosmetic products are natural, pure, chemically inert, and offer good skin tolerance. They are not treated with chemicals during processing. These attributes enable them to be used in cosmetic products that comply with European cosmetic directive (EC) n°1223/2009¹.

Cosmos

ImerCare® 90P-Scrub, ImerCare® 190P-Scrub, ImerCare® 270P-Scrub and ImerCare® 400P-Scrub are Cosmos approved.



**COSMOS
APPROVED**



FOR MORE INFORMATION,
please visit www.imerys-performance-additives.com

¹ OECD Guideline N°439 (July 2010) for testing chemicals in vitro skin irritation. Reconstructed human epidermis test method. (Certificate available upon request)