

# Gotalene<sup>®</sup> RS

## Natural exfoliating micropowders



# The ideal alliance between nature and science

**100% bio-based, derived from plant sugars, Gotalene® RS is a renewably sourced and proven alternative to PE based exfoliating beads. These efficient yet well tolerated powders are ideal to create innovative, sustainable exfoliating products for skincare and bodycare.**



# Natural exfoliating micropowders for personal care

Based on high quality GMO-free biodegradable Polylactic Acid (PLA), Gotalene® RS contributes to reducing greenhouse gas emissions and waste.

Results of a recent sensory test prove that Gotalene® RS delivers a high level of satisfaction, performance and tangible benefits:

- Efficient and well tolerated exfoliating action
- Dead cell removal and smoother skin surface
- Epidermis cell turnover improved for a healthier skin
- Pores more easily unclogged for a deep cleaning action

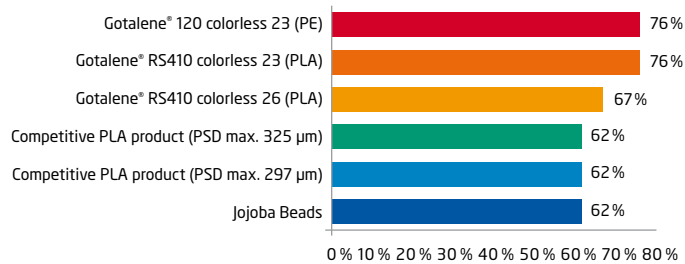
Gotalene® RS exfoliating micropowders can be used in various applications:

- Exfoliating face gels and creams (recommended use: 2-5%)
- Body scrub, shower gels, creams and butters (Recommended use: 5-10%)
- Hand soap cleansers
- Exfoliating foot care
- Bath & shower products (gel, oil, cream, powder...)
- Toothpaste
- Lip scrubs
- Hair care (shampoo, mask, conditioner...)
- Massage candles

## Proven efficacy and high level of satisfaction

### Sensory test

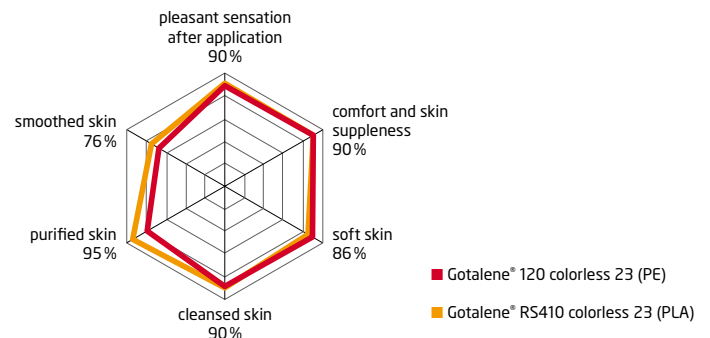
Results of a recent sensory test\* prove that Gotalene® RS delivers a high level of satisfaction and performance



\* Panelists: 20 volunteers, all women, from 18 to 70 years old, with a balanced to greasy skin

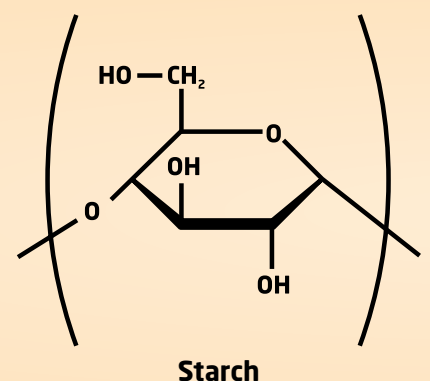
### In-use test

Cosmetic Acceptance (after application)  
Cumulative % of "agree" and "almost agree"



**Overall satisfaction**  
Gotalene® RS410 colorless 23 and Gotalene® 120 colorless 23 satisfy consumer expectations best

## How it works - production steps









# Key facts



## Product range

Our Gotalene® RS product range allows to select the most appropriate grade for your application.

	Maximum particle size	Ecocert*	Cosmos
Gotalene® RS410 colorless 23	 < 315		
Gotalene® RS410 colorless 26	 < 630		
Gotalene® RS410 Blue 23	 < 315		
Gotalene® RS410 Ultramarine 23	 < 315		
Gotalene® RS411 colorless 23 Ecocert	 < 315	Yes	Yes
Gotalene® RS411 colorless 26 Ecocert	 < 630	Yes	Yes

\*) Certified GMO-free corn

## Formulator's choice

Gotalene® RS brings benefits that really make a difference:

- Process and stabilization made easier
- Constant batch to batch quality
- Controlled consistent and narrow particle size distribution thanks to 50 years experience in powder micronization
- No support of microbiological growth
- No preservatives
- No gamma ray treatment required

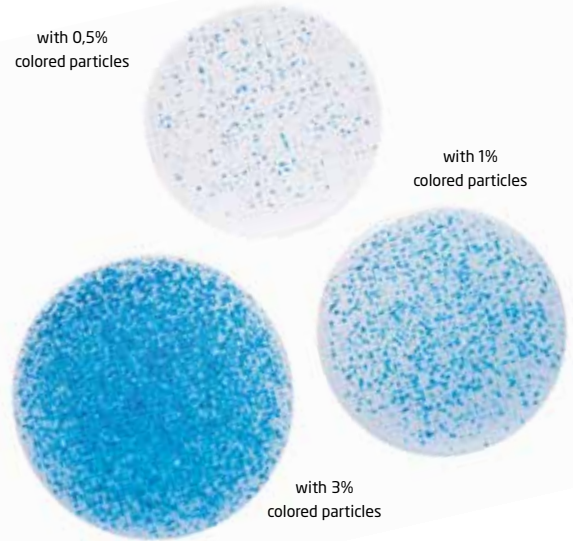
## Great stability in formulation

Results of a stability test with Gotalene® RS 410 colorless 23 after 3 months:

- No decrease of pH of the formulation at 4°C, RT and 37°C
- At 50°C, after 3 months, slight decrease of pH (maximum 0.5 point)
- Presence of a buffer allows to avoid a decrease of the pH of 0.1 point on average
- Exfoliating efficiency and visual (aspect + quantity) of PLA particles stay identical

## Color possibilities to express your creativity

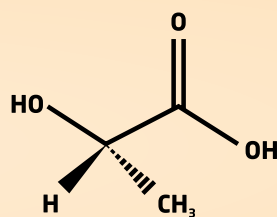
3% is the minimum percentage for an efficient scrubbing effect. So if you use less colored particles, we recommend to complete with colorless particles up to 3%.



## Product Specifications

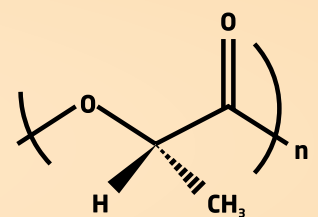
Melting point range:	160 - 185°C
Specific gravity:	1.25 mg/ml
Solubility in water:	insoluble, easily dispersible
Aspect:	dry white powder
Odor:	sweet
INCI Name:	Poly(lactic Acid)

## Fermentation



Lactic Acid

## Polymerisation (Solvent free)



Poly(lactic Acid) (PLA)



# 100% bio-based

Gotalene® RS has been developed with the growing concern of reducing environmental footprint in mind:

- Reduction in greenhouse gas emissions:  
From cradle to polymer factory gate: 1.3 Kg CO<sub>2</sub> eq./Kg polymer (vs Polyethylene: 2.1 Kg CO<sub>2</sub> eq./kg)
- Raw material compliance with EN13432 (09-2000) (requirements for recoverability through composting and biodegradation)
- Much faster biodegradation due to higher specific surface and lower molecular weight (references of publication upon request)
- PLA powders are not ecotoxic for micro-crustacea or algae (source: Soluval Santiago-Analyses Environmental (Couvét, CH), N/réf. 8738)
- According to European directive 91/271/EEC about waste water treatment in urban environment, more than 90% of the floating particles must be retained by the water treatment plants through 2 different processes:
  - 1) a first physical-chemical treatment (flocculation) dividing the floating particles by half
  - 2) a biological treatment reducing the remaining particles by 90%
- Through these mandatory treatments in Europe, 90% of the microbeads will be held within the waste water treatment plants.

**In conclusion as the residence times of sedimentation basins in WWTP is usually higher than 20-40 minutes, we expect almost complete retention of Gotalene® RS in a WWTP**

**Simulation of sedimentation of PLA powder in river environment has demonstrated that after 250 m (20-40 min of flowtime) there are no more PLA particles in water nor in sediment.**



**COSMOS  
APPROVED**

**Gotalene RS 411 Colorless 23 and 26 are now COSMOS approved Raw materials. This certification gives cosmetic companies and formulators the full confidence that Gotalene RS is a truly sustainable solution, which complies with all the stringent COSMOS requirements regarding toxicity, biodegradability and safe origin of the ingredients.**



Axalta Polymer Powders  
Rue St-Joseph 25  
P.O. Box 140  
1630 Bulle  
Switzerland  
Tel. +41-26-913 09 10  
Fax +41-26-913 01 99  
Gotalene-info@axaltacs.com  
www.axaltacs.com/gotalene

#### **Our sales team**

##### **Germany and Northern Europe**

Ms. Corinne Dziekan  
Regional Sales Manager  
Tel. +49-172 21 10 126  
corinne.dziekan@axaltacs.com

##### **France, Southern Europe and Middle East**

Mr. Marcel Melis  
Regional Sales Manager  
Tel. +41-26-913 09 23  
marcel.melis@axaltacs.com

##### **Americas and Asia**

Ms. Danielle Blomert  
Global Business Manager  
Tel. +41-26-913 09 31  
danielle.blomert@axaltacs.com

