

**LACTALIS
INGREDIENTS
PHARMA**

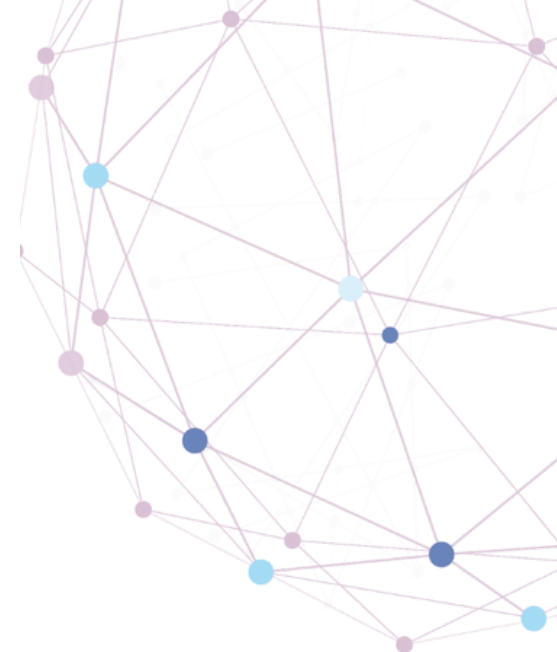
**LOW
NITRITE**

Trust our pharmaceutical lactose



LACTALIS





Your French trusted pharmaceutical lactose partner

Lactalis Ingredients Pharma shares Lactalis Group's vision of delivering the best to our customers. Benefiting from the experience and technology of decades of commitment and passion, **we are able today to enter the excipients' market as a trusted pharmaceutical lactose supplier with our first range of excipients: Lactalpha.**

Lactalis Group, world's leader of the dairy industry

Lactalis Ingredients Pharma arises from the rich history of Lactalis Group, starting from its birth in Laval, France, in 1933. Since then, the vocation of the Group has been to **transform milk in all its forms** to offer healthy and tasty products to the broadest range of consumers.

Dedicated to **valorizing every milk component** through dairy ingredients powders, Lactalis Ingredients is recognized for its technical, industrial and market expertise. Lactose, as one of the most important nutrients in milk and whey, has always been at the heart of Lactalis Ingredient's attention. Lactalis Ingredients has been **producing lactose for more than 50 years**, while enriching its expertise over the decades through the merge and purchase of industrial facilities.

EXPERTISE

QUALITY

RELIABILITY



At Lactalis Ingredients Pharma, we are driven by the wish of valorizing every crystal of lactose to its purest, most wholesome state, to simply deliver excellence.

Lactalis Ingredients, a historical and renowned lactose supplier



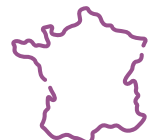
Over 50 years of **lactose production**



Shipping lactose to **more than 100 countries**



2017: Inauguration of our state-of-the-art facility



Located in **France**



Trusted by the most demanding markets such as **infantor clinical applications**



High **technical** and **industrial expertise**



Located in western **France**, our Retiers plant is at the heart of the French milk production, and conveniently situated close to our whey collection area. Thanks to the proximity of our raw materials, we can guarantee a **safe and consistent pharmaceutical grade lactose** supply everywhere and at any time. It is in our roots to be able to continuously manufacture and supply our customers with a reliable quality of lactose. Through our strong values, we participate actively to **secure the drug supply chain.**

Our state-of-the-art lactose production site



Efficient, reliable and certified production installations

The quality of our excipients is supported by the environment in which they are **produced in France**. The collaborators are involved in setting the best stage for our lactose to be produced and are provided with the optimum environment and equipment to do so.



Renowned certifications



ISO 9001
EXCI Pact (GMP)

Beyond our engineering performance, we also bear an **ongoing commitment to pharmaceutical quality**, thus providing our customers with full **transparency** and an unparalleled **satisfaction guarantee** through a constant risk evaluation and control of the change. Test and product analysis profit from controls managed by our partners in **trusted laboratories**.



Our teams are trained to follow the strict certifications required by the pharmaceutical market



Our pharmaceutical grade lactose has been developed by our teams surrounded by experts so that our excipients are fitted to your needs and the market's requirements.

● STABILITY

● HOMOGENEITY

● CONSISTENCY

● EFFICIENCY

Lactalpha

Milled & sieved lactose monohydrate



Lactalis Ingredients Pharma presents Lactalpha, a range of pharmaceutical grade milled and sieved lactose conforming with the lactose monohydrate monographs of the **current Pharmacopoeias (Ph. Eur., USP-NF and JP)**. Milled or sieved with various particle size distributions, Lactalpha can easily be used for your OSD applications, in **tablets from wet or dry granulation, capsules and sachets**.



Moreover, we rely on **renowned external experts** to guarantee the reliability of Lactalpha. Our team works closely with trusted partners in universities, analytical laboratories and development centers to **qualify Lactalpha's adequacy in different OSD applications**.

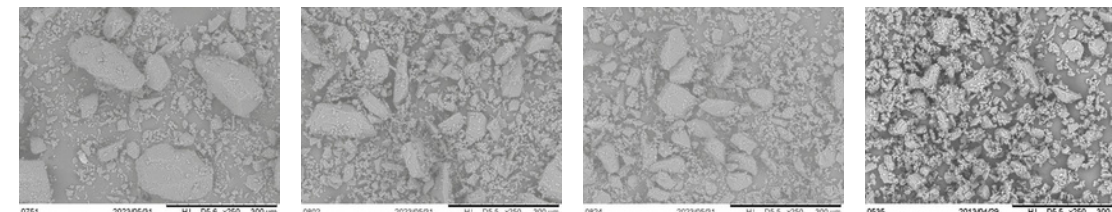
Discover our Lactalpha references

Lactalpha 50
50 mesh sieved lactose

Lactalpha 100
100 mesh milled lactose

Lactalpha 150
150 mesh milled lactose

Lactalpha 200
200 mesh milled lactose



LOW NITRITE
≤ 0.1 ppm

| Process | Dry blending | Dry blending | Wet and dry granulation | Wet and dry granulation |
|-----------------------|--|--|---|---|
| Galenic applications | | | | |
| Lactose properties | Diluent / Good flowability | Diluent / Good flowability | Tablet binder / Diluent / Good Mixing | Tablet binder / Diluent / Good Mixing |
| Bulk density | 870 g/L | 700 g/L | 610 g/L | 590 g/L |
| Tapped density | 1 050 g/L | 970 g/L | 910 g/L | 860 g/L |
| Hausner ratio | 1.21 | 1.39 | 1.50 | 1.46 |
| Carr's index | 17% | 28% | 33% | 31% |
| PSD Laser diffraction | D10: 50 µm D50: 330 µm D90: 720 µm | D10: 10 µm D50: 110 µm D90: 290 µm | D10: 7 µm D50: 65 µm D90: 190 µm | D10: 5 µm D50: 40 µm D90: 110 µm |
| PSD Air jet sieve | <200 µm: 20-60% <400 µm: ≥60% | <63 µm: ≤40% <150 µm: 60-80% <250 µm: ≥95% | <45 µm: ≤50% <100 µm: ≥70% <150 µm: ≥85% <315 µm: ≥99% | <45 µm: 50-65% <100 µm: ≥90% <150 µm: ≥96% <250 µm: ≥98% |

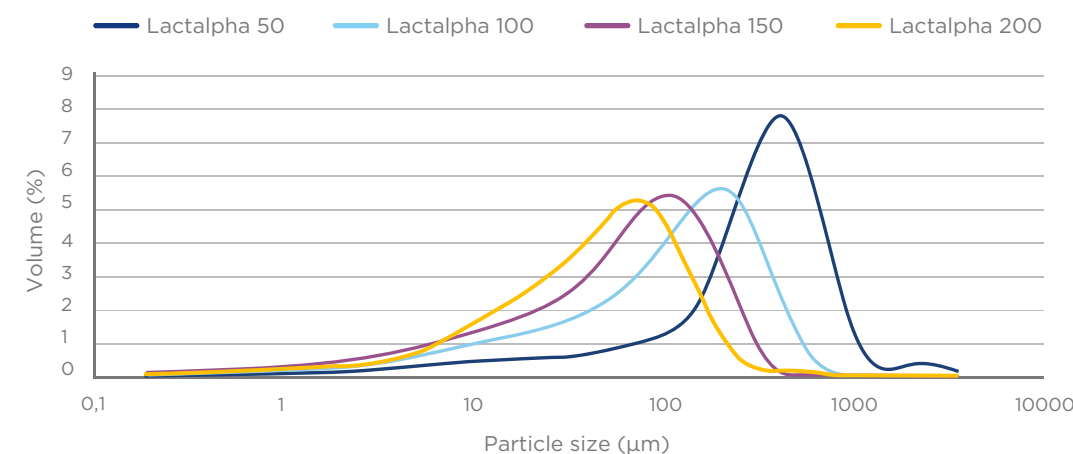


Low nitrite

Safety at the heart of your formulations

At Lactalis Ingredients Pharma, we offer a range of lactose monohydrate with a **guaranteed nitrite content of ≤ 0.1 ppm**, to support the pharmaceutical industry in addressing the growing challenges associated with **nitrosamines**. **Nitrite testing** is performed on **every batch** produced, and the **detailed value** are included **on each CoA**.

PSD by laser diffraction (indicative values)



LACTALIS INGREDIENTS PHARMA

Trust our Pharmaceutical lactose



We would be pleased to know you and your needs.

Contact us for any specific need or to receive a sample.

For more information on our products
www.pharma.lactalisingredients.com

To contact us
lactalisingredientspharma@fr.lactalis.com



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