

## JOSTCOTE® Microencapsulated Products

**J**ost Chemical Co. has developed and commercialized a line of microencapsulated mineral salts under the trade name JOSTCOTE®.

In keeping with Jost's strength for manufacturing high purity specialty chemicals in our FDA registered facility in St. Louis, MO, the new JOSTCOTE microencapsulated product line focuses on encapsulating high purity mineral salts using Jost engineered particle coating technology.

**JOSTCOTE products are Kosher and Halal certified.**

Our coating technology helps to mask taste and odor of the active substance and minimize formulation component interaction that can result in finished product stability issues. In addition, Jost's microencapsulation provides flexibility in matrix coating options and superior particle size control to help enhance the mouth feel and texture of the finished dosage form. Jost's microencapsulated products can assist in the formulation of a wide range of finished dosage forms including rapid-dissolved tablets, chewable tablets, sachets and nutrition bars.

Based on Jost's dedication to high purity mineral salt manufacturing, coupled with the "global initiative to lower elemental impurities – ICHQ3D," **Jost's QC group performed heavy metal analysis of the JOSTCOTE mineral line as detailed in the table below.** While microencapsulated products are not part of the compendial monograph, Jost considers the impurity profile of the mineral salt to be an important part of a formulator's ingredient selection criterion.

The Jost Chemical microencapsulation facilities include a fully equipped R&D lab, a pilot plant and commercial processing units. Our experienced team assists customers in progressing from product concept to commercial stage with a single partner—**Jost Chemical Co.** We offer full technical support to develop a microencapsulated product to work specifically in your application.



PRODUCT	Pb <sup>1</sup> (typical result)	Cd <sup>2</sup> (typical result)	Hg <sup>2</sup> (typical result)	As <sup>2</sup> (typical result)
JOSTCOTE® Copper Gluconate 20%	< 0.01 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
JOSTCOTE® Ferrous Fumarate 60%	< 0.04 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
JOSTCOTE® Ferrous Sulfate 60%	< 0.2 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
JOSTCOTE® Magnesium Oxide 40%	< 0.2 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
JOSTCOTE® Manganese Sulfate 50%	< 0.04 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
JOSTCOTE® Reduced Iron 70%	< 0.04 ppm	< 0.1 ppm	< 0.3 ppm	< 0.3 ppm
JOSTCOTE® Zinc Oxide 50%	< 2.5 ppm	< 0.3 ppm	< 0.1 ppm	< 0.1 ppm
Proposed ICHQ3D Concentration limits of drug products with a maximum daily dose < 10 g per day	< 0.5 ppm	< 0.5 ppm	< 4.0 ppm	< 1.5 ppm

<sup>1</sup> Limit of quantitation- 0.01 ppm

<sup>2</sup> Limit of quantitation- 0.1 ppm

### Application Success Stories

A nutraceutical manufacturer of finished dosage forms had a tablet application with a specialty formulation containing zinc as the active ingredient. The customer requested Jost's assistance as they were familiar with our high purity mineral salts. The project requirements included a taste-masked active exhibiting a smooth, non-gritty mouth feel. **The project was time-sensitive and Jost R&D reacted within 3 weeks by developing multiple samples to support the customer's initial trials.** Jost's technical team collaborated with the customer to identify matrix components that met both the customer's functionality requirements and the regulatory requirements for the intended market of distribution. The flexibility of the Jost microencapsulation technology allowed for the development of a particle size profile that met the mouth feel and texture attributes preferred by consumers in the taste panel.

Following is testimonial from the customer's R&D group regarding the taste masked zinc active developed by Jost:

**"The improvement in taste is 100%...you guys are magicians!"**



A manufacturer of animal health products contacted Jost regarding a formulation issue. The problem was an ingredient interaction that resulted in the customer's product degrading, which impacted the finished product shelf life. An exchange of technical information resulted in replacing the copper salt used in the formula. The customer's regulatory group reviewed the range of fully reacted copper salts manufactured by Jost in conjunction with related bioavailability data that was published for the target market. This information was used to select the optimal copper salt best suited for this formula. **Jost R&D then produced lab-scale microencapsulated copper salt samples for customer evaluation for ingredient compatibility and finished product stability.**



**Please contact your Jost representative for additional information on how the Jost's microencapsulated products can address your application requirements.**