



BRINGING  
**MINERALS**  
TO LIFE...





# *Macco Organiques, s.r.o.* *Czech Republic*

is a leading producer and supplier of inorganic salts for IV and dialysis solutions, pharmaceuticals, biotechnology, infant formulas, nutritional supplements, veterinarian preparations, mineralised and bottled water and for personal care.

## *Macco – production of mineral salts*

Since being established in 1976, Macco has experienced steady growth and today is a company that enjoys state of the art production facilities. We predominantly produce Calcium Chloride Dihydrate, Magnesium Chloride Hexahydrate, Magnesium Sulphate x-hydrate, Zinc Sulphate x-hydrate, Ammonium Sulphate, Sodium Sulphate Anhydrous, Potassium Chloride and Potassium Nitrate.

We take great care in maintaining our high levels of quality, this is reflected in the certification and registrations awarded to Macco Organiques, s.r.o. and the documented standards that we adhere to.

## *Quality Standards:*

**EP, BP, USP, JP, FCC, E-numbers, ACS**

To attain our high quality levels and maintain the trust given to us by our customers, suppliers and regulators, we have our own on-site laboratories that include research and development facilities to test and continuously improve all aspects of our production.

With our own technical sales and support teams, every product development project or order is in our own hands from the initial contact through to final delivery.



## *Certification and Registrations:*

**GMP ICH Q7, FSSC 22000, ISO 9001, CoS/CEP, DMF, Halal, Kosher, API Facility and DMF registrations at the US FDA.**





### **Macco offering physically modified mineral salts and customised packaging**

We are aware that the requirements of our customers for grain-size, free-flowing properties and homogeneity of their raw material may be very specific.

Macco provides solutions for all of their specific needs and also offers the following production activities not simply for products produced by Macco, but also for mineral salts from our long standing reliable suppliers:

- **blending of mineral salts**
- **grinding / crushing**
- **milling**
- **repacking** (upon request from our customer)

At Macco, there is a high stress on the prevention of any contamination occurring during all production stages.

Macco believes that if it can be manufactured, it can be packed. Our standard pack sizes are:

- **low volume sacks and jars from 50 grams**
- **bags from 10 kg to 25 kg**
- **carton boxes of 25 kg**
- **plastic drums from 12 kg to 250 lb**
- **fibre drums from 25 kg to 250 lb**
- **big-bags from 400 kg to 1 000 kg**

We pack all products in our GMP Q7 certified facility equipped with Clean Rooms to ISO 8 or in HACCP rooms for special products required by the food industry. Products for the food market go through highly sensitive metal and/or X-Ray detection systems as a part of our metal particle contamination management.

To finally deliver customer satisfaction, our logistics team have no borders. From small volume customers to high volume bulk users, every customer is treated with the same professional and personal approach and with the utmost respect.

### **Macco offering mineral salts from qualified producers**

Using our experience in selling mineral salts from our own production and knowledge of both the legislative and market requirements for quality and service of such products, Macco also offers high end quality mineral salts from other third party reliable and qualified producers.

We place immense importance on the certification of our products and our manufacturing processes. Through constant internal and external auditing and stringent controls, we not only work within the standards but push the boundaries of quality.



## Key Macco products



Calcium Chloride Dihydrate	<b><math>CaCl_2 \cdot 2H_2O</math></b>	EP, BP, USP, JP, FCC, ACS
Calcium Hydroxide	<b><math>Ca(OH)_2</math></b>	EP, BP, USP, FCC
Calcium Sulphate Dihydrate	<b><math>CaSO_4 \cdot 2H_2O</math></b>	EP, BP, USP, FCC
Calcium Acetate	<b><math>(CH_3COO)_2Ca</math></b>	EP, BP, USP, FCC
Calcium Propionate	<b><math>(C_2H_5COO)_2Ca</math></b>	FCC
Calcium Carbonate	<b><math>CaCO_3</math></b>	EP, BP, USP, FCC
Magnesium Chloride Hexahydrate	<b><math>MgCl_2 \cdot 6H_2O</math></b>	EP, BP, USP, JPC, FCC, ACS
Magnesium Chloride 4,5Hy	<b><math>MgCl_2 \cdot 4,5H_2O</math></b>	EP
Magnesium Sulphate Dried	<b><math>MgSO_4 \cdot xH_2O</math></b>	BP or USP, FCC
Magnesium Sulphate Heptahydrate	<b><math>MgSO_4 \cdot 7H_2O</math></b>	EP, BP, USP, FCC
Magnesium Oxide Heavy, Light	<b><math>MgO</math></b>	EP, BP, USP, FCC
Potassium Chloride	<b><math>KCl</math></b>	EP, BP, USP, FCC
Potassium Hydrogen Carbonate	<b><math>KHCO_3</math></b>	EP, BP, USP, FCC
Potassium Benzoate	<b><math>C_6H_5COOK</math></b>	FCC
Potassium Acetate	<b><math>CH_3COOK</math></b>	EP, BP, USP, FCC
Potassium Nitrate	<b><math>KNO_3</math></b>	EP, BP, USP
Zinc Sulphate Monohydrate	<b><math>ZnSO_4 \cdot H_2O</math></b>	EP, BP, USP, FCC
Zinc Sulphate Heptahydrate	<b><math>ZnSO_4 \cdot 7H_2O</math></b>	EP, BP, USP, FCC
Sodium Chloride	<b><math>NaCl</math></b>	EP, BP, USP, FCC
Sodium Sulphate Anhydrous	<b><math>Na_2SO_4</math></b>	EP, BP, USP, FCC
Sodium Carbonate	<b><math>Na_2CO_3</math></b>	EP, BP, USP, FCC
Sodium Hydrogen Carbonate	<b><math>NaHCO_3</math></b>	EP, BP, USP, FCC
Sodium Benzoate	<b><math>C_6H_5COONa</math></b>	FCC
Sodium Acetate Anhydrous	<b><math>CH_3COONa</math></b>	EP, BP, USP, FCC
Sodium Acetate Trihydrate	<b><math>CH_3COONa \cdot 3H_2O</math></b>	EP, BP, USP, FCC
Sodium Di-Acetate	<b><math>CH_3COOH \cdot CH_3COONa \cdot H_2O</math></b>	FCC
Sodium Propionate	<b><math>C_2H_5COONa</math></b>	FCC
Ammonium Sulphate	<b><math>(NH_4)_2SO_4</math></b>	USP, FCC, ACS



# Applications

Calcium Chloride Dihydrate  
 Calcium Carbonate  
 Calcium Hydroxide  
 Calcium Sulphate Dihydrate  
 Calcium Phosphate  
 Magnesium Chloride Hexahydrate  
 Magnesium Sulphate Heptahydrate  
 Magnesium Sulphate Dried  
 Magnesium Oxide  
 Magnesium Phosphate  
 Potassium Chloride  
 Potassium Hydrogen Carbonate  
 Potassium Phosphate  
 Sodium Chloride

*Pharmaceuticals,  
 Biopharmaceuticals,  
 Veterinarian Preparations*

Sodium Hydrogen Carbonate  
 Sodium Sulphate Anhydrous  
 Sodium Acetate Trihydrate  
 Sodium Phosphate  
 Zinc Sulphate Heptahydrate  
 Zinc Sulphate Monohydrate  
 Ammonium Chloride  
 Ammonium Sulphate  
 Urea



*Mineralized Table Water,  
 Sport Drinks  
 and Beverage*

Calcium Chloride Dihydrate  
 Magnesium Sulphate Heptahydrate  
 Magnesium Sulphate Dried  
 Magnesium Chloride Hexahydrate  
 Sodium Chloride  
 Sodium Hydrogen Carbonate  
 Potassium Chloride  
 Potassium Hydrogen Carbonate

Calcium Chloride Dihydrate  
 Calcium Hydroxide  
 Calcium Carbonate  
 Calcium Gluconate  
 Calcium Citrates  
 Calcium Phosphate  
 Magnesium Chloride Hexahydrate  
 Magnesium Citrates  
 Magnesium Sulphate Heptahydrate  
 Magnesium Sulphate Dried  
 Magnesium Oxide  
 Magnesium Phosphates  
 Sodium Chloride  
 Sodium Carbonate  
 Sodium Bicarbonate  
 Sodium Citrates  
 Sodium Phosphates  
 Sodium Hydroxide  
 Potassium Hydroxide  
 Potassium Chloride  
 Potassium Citrates  
 Potassium Bicarbonate

*Infant Formulas,  
 Baby Food,  
 Nutraceuticals*

Potassium Iodide  
 Potassium Phosphates  
 Zinc Sulphate Heptahydrate  
 Zinc Sulphate Monohydrate  
 Zinc Oxide  
 Zinc Gluconate  
 Cupric Sulphate Pentahydrate  
 Ferrous Sulphate Heptahydrate  
 Manganese Sulphate Monohydrate



*Infusion  
 and Dialysis Solutions*

Calcium Chloride Dihydrate  
 Magnesium Chloride Hexahydrate  
 Potassium Chloride  
 Sodium Chloride  
 Sodium Acetate Trihydrate  
 Sodium Bicarbonate  
 Citric Acid



*Health and Personal Care*

Calcium Chloride Dihydrate  
 Magnesium Chloride Hexahydrate  
 Potassium Chloride  
 Potassium Nitrate  
 Strontium Chloride

Calcium Chloride Dihydrate  
 Calcium Chloride liquid  
 Calcium Sulphate Dihydrate  
 Zinc Sulphate Heptahydrate  
 Zinc Sulphate Monohydrate  
 Potassium Bicarbonate  
 Potassium Chloride  
 Sodium Acetate Trihydrate  
 Sodium Acetate Anhydrous  
 Sodium Di-Acetate

*Meat, Bakery,  
 Brewing Industry*





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## ***Macco Organiques Inc. Canada***

Formed in 1986, Macco Organiques Inc. acquired the assets of a long-standing chemical manufacturing company in Valleyfield (Quebec) producing propionates, benzoates and acetates. Since this time Macco has experienced steady growth and an impressive increase in capacity focusing predominantly on the Food and Pharmaceutical Industries.

In 1988, Macco Organiques Inc. developed a revolutionary technology to dry and process all ingredients into a dust-free powder form that remains free flowing without caking or clumping for extended lengths of time.

Macco has received and maintained worldwide recognition for producing high quality dust free products with their unique technology and has been awarded ISO 9001 certification and adheres strictly to FSSC 22000 standards. The facility is FDA audited according to GMP Q7 guidelines.

Macco Organiques Inc. offers an extensive portfolio of dust-free ingredients such as:

- ***Sodium Acetate Anhydrous***
- ***Sodium Acetate Trihydrate***
- ***Calcium Acetate***
- ***Potassium Acetate***
- ***Calcium Propionate***
- ***Sodium Propionate***
- ***Potassium Benzoate***
- ***Sodium Benzoates***

from their Canada plant.



Lallemand Inc. is a privately held Canadian company, founded at the end of the 19<sup>th</sup> century, specializing in the development, production, and marketing of yeasts and bacteria. The company is divided into two major groups: Yeast Group (based in Montreal, Canada) and Specialties Group (based in Toulouse, France). Administrative offices for the parent company are in Montreal, Canada.

### ***The Yeast Group***

The Yeast Group includes North American Yeast and Ingredients (based in Memphis, USA), EMEA (European Middle-Eastern and African) Yeast Division (based in Amsterdam, The Netherlands) and Bio-Ingredients (based in Montreal, Canada).

North American Yeast and Ingredients Division, with headquarters in Memphis, TN, Its yeast plants in Montreal, Baltimore and Memphis and mix plant in Mexico produce fresh, cream and instant dried bakers yeast along with inactive yeasts, specialty yeasts, dough conditioners and baking powders.

EMEA Yeast Division (Europe, Middle-East and Africa), produces specialty yeasts, yeast extracts and derivatives and also produces and markets bakers yeast (fresh, cream and instant dried).

Bio-Ingredients Division with headquarters in Montreal, Canada and sales offices in Denmark, Austria, Switzerland and the USA, offers inactive yeasts, yeast extracts and yeast derivatives worldwide to various food and feed companies for their savory attributes and to the fermentation industries as highly bioavailable nutrients.

### ***Specialties Group***

The Specialties Group, with headquarters in Toulouse, France, is a technically-driven business focusing on applications of yeast and bacteria in fermented beverages, human and animal nutrition, fuel ethanol and for agricultural (plant care) and pharmaceutical uses. It is organized in Business Units, each dedicated to a field of industry: Oenology, Brewing, Animal Nutrition, Human Nutrition (ingredients, and supplements), Pharma (pharmaceutical products), Ethanol Technology (fuel ethanol and spirits) and Plant Care.

For more information about Lallemand, please visit [www.lallemand.com](http://www.lallemand.com).





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