



**Functional
Salts for
Cosmetics**



Dr. Paul Lohmann®

High value mineral salts

www.lohmann4minerals.com



Functional Ingredients for

- ◆ Skin Care
- ◆ Oral Care
- ◆ Deodorants
- ◆ Hair Care
- ◆ Nutricosmetics

Mineral Salts for Personal Care Applications

Mineral Salts are commonly used as functional ingredients in the cosmetic industry. In skin care, deodorants, hair care, oral care and nutricosmetics a diverse range of Mineral Salts is being used. The different tasks they perform are numerous: humectant, skin care agent, keratolytic agent and buffer. They control a product's viscosity, preserve it or act as anti-perspirants in deodorants.

Many raw materials in our products are from natural sources and can be used in natural cosmetics. However, our Mineral Salts have an advantage over natural products because of their higher purity and constantly high quality, without fluctuations that are inevitable in materials from nature.

Skin Care

Skin is the largest organ of the human body. It forms the protective shield and often the first and only line of defense against harmful environmental influences.

Proper skin care including Mineral Salts produced by Dr. Paul Lohmann® will help to maintain a healthy and beautiful skin. Copper and Manganese Salts (preferably gluconates) are attractive additives in anti-aging products due to their keratin and collagen forming properties. Manganese additionally has an anti-oxidant effect. Zinc Gluconate is also applicable in this field, because of its antioxidative characteristics.

Moreover, Zinc encourages the formation of laminin receptors, which control the bond between the epidermis and the basement membrane.¹ In terms of its moisturizing and keratolytic properties, Lactates such as Sodium Lactate, are widely used in skin care products.

Product Portfolio for Skin Care

INCI name/product	Product code	Quality	Appearance	Function
Aluminum Lactate	512009	chem. pure	powder	◆ astringent ² ◆ anti-perspirant
Diammonium Citrate	502075	chem. pure	crystalline powder	◆ viscosity control ◆ chelator
Ammonium Lactate	512010	chem. pure	solution; approx. 50 % approx. 60 % approx. 70 %	◆ moisturizer ³ ◆ keratolytic agent ⁴
Calamine	515032	BP	powder	◆ skin protectant ⁵ ◆ anti-inflammatory agent ⁵ ◆ anti-microbial agent
	515033	USP		
Calcium Carbonate	512006	E 170 Ph.Eur. USP	powder micronized powder	◆ pH adjuster ◆ opacifying agent
Calcium Lactate PLUS	512083	food grade	powder granules	
Copper Gluconate	519025	FCC USP	fine powder	◆ skin-regeneration ⁶ ◆ anti-aging ⁶ ◆ anti-microbial agent ⁶
Magnesium Aspartate	501061	chem. pure Ph.Eur.	powder fine granules	◆ skin conditioning
Magnesium Carbonate	503036	E 504(ii) FCC USP Ph.Eur.	powder light powder medium heavy powder heavy	◆ absorbents ◆ opacifier ◆ bulking agent ◆ anti-caking agent for powders
Magnesium Citrate	503033	DAC food grade	crystalline powder granules	◆ skin conditioning
Magnesium Hydroxide	503035	Ph.Eur. USP FCC E 528 chem. pure	powder fine powder (light & heavy)	◆ buffering agent ⁷ ◆ absorbents ⁷
Magnesium Lactate	512021	chem. pure Ph.Eur. food grade	powder micronized powder	◆ moisturizer ⁷ ◆ keratolytic agent ⁷ ◆ skin conditioning agent ⁷ ◆ buffering agent ⁷
Magnesium Oxide	503046	E 530 USP Ph.Eur. FCC	powder micronized powder	◆ absorbents ⁷ ◆ pH adjuster ⁷ ◆ opacifying agent ⁷
Magnesium Stearate	515037	E 470b analyzed acc. to: Ph.Eur., NF, BP USP	powder	◆ lubricating agent ⁷ ◆ opacifying agent ⁷ ◆ anti-caking agent ⁷
Manganese Gluconate	512034	FCC Ph.Eur. USP	powder	◆ anti-aging ◆ anti-oxidant
Potassium Gluconate	503076	USP FCC	fine crystals	◆ skin protectant ⁷ ◆ chelating agent ⁷
Potassium Lactate	512013	DAB E 326	solution; approx. 50 % approx. 60 % approx. 70 %	◆ buffering agent ⁷ ◆ moisturizer ⁷
Potassium Phosphate	505044	E 340(i) chem. pure	crystals	◆ pH adjuster ◆ buffering agent
Sodium Citrate	502009	E 331(iii) FCC Ph.Eur. USP chem. pure Ph.Eur. NF	powder fine powder crystals fine crystals	◆ pH adjuster ⁷ ◆ chelating agent ⁷ ◆ buffering agent ⁷
Trisodium Citrate 5.5-hydrate	502003	Erg.B.6 USP VIII JECFA	crystals	◆ pH adjuster ⁷ ◆ chelating agent ⁷ ◆ buffering agent ⁷
Sodium Lactate	512012	E 325 Ph.Eur. USP chem. pure	solution; approx. 50 % approx. 60 % approx. 70 %	◆ skin conditioning agent ⁷ ◆ humectants ⁷ ◆ buffering agent ⁷ ◆ exfoliant ⁷
Sodium Malate	503065		solution; approx. 40 %	◆ skin conditioning agent ⁷
Sodium Sulfate	522019	E514(i) FCC Ph.Eur. USP	crystals	◆ viscosity control ⁷
Zinc Acetate	515006	chem. pure E 650 USP Ph.Eur.	powder crystalline powder	◆ anti-microbial agent ⁸ ◆ skin protectant ⁷
Zinc Ascorbate	501048	food supplements chem. pure	powder	◆ anti-microbial ⁹ ◆ anti-aging ¹⁰ ◆ skin protectant ¹¹
Zinc Gluconate	503077	Ph.Eur. USP FCC	powder fine granules	◆ skin conditioning agent ◆ anti-microbial agent ⁷
Zinc Lactate	515012	chem. pure	powder	◆ pH adjuster ◆ anti-microbial agent
Zinc Oxide	515007	FCC chem. pure Ph.Eur. USP	powder	◆ anti-inflammatory agent ⁵ ◆ anti-microbial agent ⁵
Zinc Stearate	515038	Ph.Eur.	powder	◆ bulking agent
Zinc Sulfate	515059	USP FCC Ph.Eur. chem. pure	powder micronized powder fine powder	◆ skin protecting ¹² ◆ anti-oxidant ¹²

Oral Care

Oral care is one of the most important segments of personal care. If the mouth, teeth or buccal mucosa aren't properly maintained, they are likely to become an immediate source of discomfort and infection. This in turn can result in toothaches, gum bleeding, bad breath, dental plaque and inefficient teeth mineralization. Dr. Paul Lohmann® Mineral Salts address these conditions as actives in toothpastes and mouthwash applications.

Anti-plaque, healthy gums and fresh breath

The common source of plaque, bleeding gums and bad breath are bacteria and inflammation. Zinc Salts are well known and used for their anti-microbial and anti-inflammatory properties¹³ as active functional salts to address the primary functions of toothpaste and mouthwashes. Zinc remains active in the oral cavity for around 2–3 hours after brushing the teeth, because it binds with the mucosa, elements of saliva and the bacterial membrane. In the oral cavity, Zinc blocks certain receptors on the bacterial membrane preventing them from spreading and reproducing. This in turn suppresses acid formation, unpleasant odors and tissue inflammations. Furthermore, Zinc has an astringent effect on gums and the mucous membrane of the oral cavity, which in turn can be used to treat aphten in the buccal mucosa and gum bleeding.

The anti-microbial and anti-inflammatory properties of Zinc eradicate the cause of bleeding gums.¹⁴ Moreover, Zinc has an astringent effect that staunches bleeding¹⁵, also ensured by Aluminium Salts.



Functional Salts for

- ◆ Fresh breath
- ◆ Anti-plaque
- ◆ Healthy gums
- ◆ Sensitive teeth
- ◆ Remineralization

Product Portfolio for Oral Care

INCI name/product	Product code	Quality	Appearance	Function
Aluminum Lactate	512010	chem. pure	solution; approx. 30 %	◆ adstringent ◆ anti-bleeding
Calcium Carbonate	512006	E 170 Ph.Eur. USP	powder micronized powder	◆ remineralization ◆ abrasive cleaner
Calcium Glycerophosphate	512049	Ph.Eur. FCC	powder	◆ remineralization agent ²⁰ ◆ anti-plaque ⁷
Calcium Hydrogen Phosphate	512017	USP Ph.Eur. FCC E 341	powder	◆ remineralization agent
Magnesium Glycinate	505083	food supplement chem. pure	powder	◆ anti-hypersensitivity agent
Magnesium Peroxide	515071	chem. pure Ph.Eur.	powder	◆ whitening agent
	515072			
	515073			
Magnesium Sulfate	522014	FCC Ph.Eur. USP BP	crystals	◆ anti-hypersensitivity agent ²¹
Potassium Citrate	502038	E 332(ii) chem. pure Ph.Eur.	powder fine powder crystals	◆ anti-hypersensitivity agent ²²
Potassium Magnesium Citrate	502011	food supplement	crystalline powder	◆ anti-hypersensitivity agent
Potassium Oxalate	515016	chem. pure Erg.B.6	fine powder crystals	◆ anti-hypersensitivity agent
Sodium Citrate	502009	E 331(iii) FCC USP chem. pure Ph.Eur.	powder fine powder crystals	◆ masking agent ²³ ◆ anti-microbial agent ²⁴
	502010			
Tetrasodium Pyrophosphate	503030	purity acc. E 450(iii)	powder	◆ chelating agent ◆ buffering agent
Strontium Acetate	502028	chem. pure	powder	◆ anti-hypersensitivity agent
Zinc Acetate	515006	E 650 USP Ph.Eur. Erg.B.6 chem. pure	powder	◆ anti-inflammatory agent ◆ anti-microbial agent ⁸ ◆ odor suppression ²⁵ ◆ remineralization agent ²⁶
Zinc Citrate	502017	chem. pure USP toothpaste grade	powder	◆ anti-microbial agent ²⁷ ◆ anticalculus ²⁸ ◆ oral mucosa protection ²⁹ ◆ anti-plaque ³⁰
Zinc Gluconate	503077	Ph.Eur. USP FCC food supplement	fine powder crystals	◆ anti-microbial agent ◆ odor suppression ◆ anti-plaque
Zinc Lactate	515012	chem. pure	crystals	◆ anti-microbial agent ◆ odor suppression ³¹
Zinc Sulfate	515059	USP FCC Ph.Eur.	powder	◆ anti-inflammatory agent ³² ◆ anti-microbial agent ³³ ◆ odor suppression ³⁴ ◆ anti-plaque ³²

Sensitive teeth

The use of a desensitizing toothpaste is the first line of treatment for sensitive teeth. These generally contain Potassium Salts such as Potassium Oxalate, Potassium Citrate or Potassium Magnesium Citrate. Potassium ions reduce the permeability of dentin without completely blocking the dentin tubules.^{16,17} Magnesium Salts such as Magnesium Sulfate also provide relief by reducing sensitivity as a Calcium channel blocker.¹⁸

Remineralization

Tooth demineralization is caused by acid and the resulting formation of cavities in the tooth enamel (tooth decay). Studies have shown that toothpastes containing Calcium Phosphate significantly reduce the incidence of tooth decay. Calcium Phosphate in dental hygiene products also effectively remineralizes dentin.¹⁹

We are happy to help our customers with product development and application engineering to create innovative dental hygiene products like substituting Aluminium with Zinc Salts or even complete mouthwash systems with Calcium, Magnesium, Zinc and Potassium Salts to promote remineralization, healthy gums and sensitive teeth. Our sales representatives are pleased to inform you about our innovative concepts.

Hair Care

Healthy hair has always been an expression of attractiveness and beauty. All different hair types need consistent and quality care to maintain and show their natural beauty. Mineral Salts from Dr. Paul Lohmann® help to address the needs of different hair types and ensure a healthy and beautiful appearance.

In hair care products Mineral Salts play important functional roles as buffers, humectants, viscosity-controlling agents or for hair bleaching.

Deodorants/ Anti-perspirants

Anti-perspirants protect from malodor by reducing perspiration, while deodorants help mask the odors. Potassium Alum and Aluminium Lactate are classically used as anti-perspirants. The anti-perspirants effect of Aluminium is based on the blocking of the sweat glands and therefore prevent the perspiration. However, malodor is caused by bacteria which are part of the normal skin flora (skin microbiome). Odor suppression can be achieved by providing anti-microbial agents like Zinc Salts. Dr. Paul Lohmann® has performed application tests in standard deodorant formulas with different Zinc Salts and demonstrated good performance with Zinc Citrate, Zinc Lactate, Zinc Acetate and Zinc Sulfate. Since the usage of Aluminium in personal care continues to be debated the availability of alternative salts is of crucial importance.



Product Portfolio for Hair Care

INCI name/product	Product code	Quality	Appearance	Function
Magnesium Carbonate	503036	E 504(ii) FCC USP Ph.Eur. chem. pure	powder light powder heavy	<ul style="list-style-type: none"> ◆ activator in bleaching powders ◆ anti-caking agent ◆ absorbent
Magnesium Citrate	503033	DAC food supplement	crystalline powder granules	<ul style="list-style-type: none"> ◆ hair conditioning
Magnesium Oxide	503046	E 530 FCC USP Ph.Eur. chem. pure	powder light powder heavy micronized powder	<ul style="list-style-type: none"> ◆ activator in bleaching powders ◆ absorbent
Magnesium Peroxide	515071	chem. pure Ph.Eur.	powder	<ul style="list-style-type: none"> ◆ hair bleaching
	515072			
	515073			
Magnesium Sulfate	522014	FCC Ph.Eur. USP	crystals	<ul style="list-style-type: none"> ◆ hair conditioning
Zinc Acetate	515006	chem. pure E 650 USP Ph.Eur.	powder crystalline powder	<ul style="list-style-type: none"> ◆ anti-microbial
Zinc Gluconate	503077	Ph.Eur. USP FCC	powder fine granules	<ul style="list-style-type: none"> ◆ color retention

Product Portfolio for Deodorants/Anti-perspirants

INCI name/product	Product code	Quality	Appearance	Function
Aluminium Citrate	511077	chem. pure	powder	<ul style="list-style-type: none"> ◆ anti-perspirant
Aluminum Lactate	512009	chem. pure	powder	<ul style="list-style-type: none"> ◆ anti-perspirant ◆ anti-microbial agent ◆ astringent
Calcium Lactate	512001	E 327 FCC Ph.Eur. USP	powder granular powder	<ul style="list-style-type: none"> ◆ anti-perspirant¹⁴
Magnesium Carbonate	503036	E 504(ii) FCC USP Ph.Eur. chem. pure	powder light powder medium heavy powder heavy	<ul style="list-style-type: none"> ◆ carrier ◆ anti-caking agent ◆ absorbent¹⁴
Magnesium Lactate	512021	chem. pure Ph.Eur. food grade	powder micronized powder	<ul style="list-style-type: none"> ◆ humectant ◆ skin conditioning agent
Potassium Alum	511023	chem. pure Ph.Eur.	micronized powder crystalline powder	<ul style="list-style-type: none"> ◆ astringent ◆ odor control agent
Potassium Lactate	512013	DAB 6 E 326 chem. pure	solution; approx. 50 % approx. 60 % approx. 70 %	<ul style="list-style-type: none"> ◆ buffering agent ◆ skin conditioning agent
Zinc Acetate	515006	chem. pure E 650 USP Ph.Eur.	powder crystalline powder	<ul style="list-style-type: none"> ◆ anti-microbial agent ◆ odor control agent
Zinc Citrate	502017	chem. pure USP	powder micronized powder extra fine powder	<ul style="list-style-type: none"> ◆ anti-microbial agent ◆ odor control agent
Zinc Lactate	515012	chem. pure	powder	<ul style="list-style-type: none"> ◆ anti-microbial agent ◆ odor suppression
Zinc Peroxide	515074	chem. pure	powder	<ul style="list-style-type: none"> ◆ anti-microbial agent ◆ odor control agent
Zinc Sulfate	515059	USP FCC Ph.Eur.	powder micronized powder fine powder	<ul style="list-style-type: none"> ◆ anti-bacterial agent³⁵ ◆ odor control agent³⁵



Beauty from within

Suitable qualities for

- ◆ Tablets
- ◆ Capsules
- ◆ Beauty drinks/ampoules
- ◆ Oils/gels

Nutricosmetics

Nutricosmetics are nutritional supplements that improve the appearance and/or condition of skin, hair and nails. They are not applied topically, but taken orally and therefore have a systemic effect (“beauty from within”).

Skin

The primary aim is protecting and repairing skin. Oxidative stress is one factor that can damage the skin. Selenium, Molybdenum and Manganese in particular, but also Iodine, can help greatly reduce oxidative stress on skin, caused by excess exposure to the sun. Molybdenum and Manganese help restore skin’s firmness. Zinc also has anti-oxidative properties and its anti-inflammatory effect protects against excessive acne and helps the skin heal minor lesions.³⁶

Special nutricosmetics for brightening skin tone often contain Zinc and Selenium. They inhibit the formation of melamine and make the skin look lighter.^{37,38} Especially in Asia, fair skin is regarded as the ideal of beauty.

Hair

The main objective of systemic hair care is to aid hair retention and growth. Voluminous hair is seen as the ideal of beauty. Damaged hair must be restored and supplied with nutrients. Zinc and Selenium in particular – but also Copper, Molybdenum and Manganese – have a good nutritional effect on hair.

Nails

Fingernails and toenails can be strengthened and restored by taking keratogenic nutricosmetics containing Copper, Molybdenum and Manganese. Selenium and Zinc also help to promote normal and strong nail growth.

Product Portfolio for Nutricosmetics*

INCI name/product	Product code	Quality	Appearance	Function
Calcium Glycinate	505082	food supplements	powder	◆ anti-aging ³⁹ ◆ skin repair ³⁹
Calcium Citrate	502041	E 333(iii) FCC USP DAC food supplements	powder micronized powder fine powder compacted powder	◆ anti-aging ³⁹ ◆ skin repair ³⁹
Copper Glycinate	505084	food supplements chem. pure	crystalline powder	◆ anti-aging ⁴⁰
Copper Gluconate	519025	FCC USP	fine powder	◆ anti-aging ⁴⁰
Magnesium Ascorbate	501046	food supplements chem. pure	powder	◆ anti-aging ◆ anti-oxidant
Magnesium Glycinate	505083	food supplements chem. pure	powder	◆ anti-aging ◆ anti-oxidant
Manganese Gluconate	512034	FCC Ph.Eur. USP	powder	◆ anti-aging ⁴¹ ◆ anti-oxidant ⁴¹
Manganese(II) Sulfate 1-hydrate	512014	FCC USP chem. pure Ph.Eur.	powder crystalline powder	◆ anti-aging ⁴¹ ◆ anti-oxidant ⁴¹
Sodium Molybdate 2-hydrate in Calcium Carbonate	501097	chem. pure	powder	◆ skin repair ◆ hair repair
Sodium Molybdate 2-hydrate in Maltodextrin	501097	chem. pure	powder	◆ skin repair ◆ hair repair
Sodium Selenite in Sodium Citrate	501092	chem. pure	powder	◆ anti-oxidant ◆ fair skin ³⁸
Sodium Selenite in Calcium Carbonate (Selohvita)	501092	chem. pure	powder	◆ anti-oxidant ◆ fair skin ³⁸
Disodium Selenite	501090	Ph.Eur.	powder	◆ anti-oxidant
Zinc Ascorbate	501048	chem. pure food supplements	powder	◆ anti-oxidant ¹² ◆ skin protecting ¹²
Zinc Glycinate	505081	food supplements chem. pure	powder	◆ anti-oxidant ¹² ◆ skin protecting ¹² ◆ fair skin ³⁷
Zinc Citrate	502017	chem. pure USP (dietary supplements)	powder micronized powder extra fine powder	◆ anti-oxidant ¹² ◆ skin protecting ¹²

* Please also see our brochure [Mineral Salts for Nutritional Supplements!](#)



Certification and Documentation



Our products comply with the requirements for raw materials stated in Regulation (EC) No. 1223/2009 of the European Parliament and of the Council 30th November 2009 and its amendments on cosmetic products.

- ◆ They are not tested on animals according to the a.m. regulation
- ◆ They do not contain any substances that are carcinogenic, mutagenic or toxic for reproduction (CMR-free)

- ◆ Allergenic Substances: due to the nature of the raw materials used, the presence of allergenic substances according to Article 1.10 of Directive 2003/15/EC of the European Parliament and of the Council is very unlikely
- ◆ No additives of any kind (colorants, perfumes, preservatives, antioxidants etc.) are added to the products during the manufacturing process
- ◆ No nanomaterials are used during the manufacturing process
- ◆ The products are not manufactured by genetically modified organisms (GMO-free)
- ◆ COSMOS standard compliance on request

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