



Industrial  
chemicals

Creating the missing link.

# Active Zinc Oxides/Zinc Carbonates Direct/Indirect Zinc Oxides

Product	Composition	Applications and Characteristics
Zinc Oxide RAC	Active Zinc Oxide	<b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; activator for sulfur and thiuram vulcanization</li> <li>&gt; ideal for slow reactive systems like EPDM</li> <li>&gt; excellent cost/performance ratio</li> <li>&gt; optimal composition for vulcanization</li> <li>&gt; reduction of heavy metal content up to 50 % in comparison to conventional systems</li> </ul>
Zinc Oxide RAC CS	Formulation of active Zinc Oxide + carrier	<b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; vulcanization activator with remarkably reduced zinc content by simultaneously giving better physical properties</li> <li>&gt; produced according to the "Core-Shell" principle</li> </ul>
Zinc Oxide AC	Active Zinc Oxide	<b>Catalyst Industry</b> <ul style="list-style-type: none"> <li>&gt; high purity for zinc catalyst process</li> <li>&gt; high surface area for high performance</li> <li>&gt; ideal particle structure</li> </ul> <b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; activator for sulfur and thiuram vulcanization</li> <li>&gt; for production of transparent and translucent rubber articles</li> </ul>
Zinc Oxide Pro Series	Active Zinc Compound	<b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; vulcanization activators with emphasis on price, performance, ecology</li> <li>&gt; superior price/performance ratio vs. thermal zinc oxide</li> <li>&gt; 1:1 replacement of thermal zinc oxide</li> </ul>
Activator RS	Active Zinc Derivative	<b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; vulcanization activator with lower zinc and heavy metal content for giving better physical properties</li> <li>&gt; 1:1 replacement of thermal zinc oxide</li> </ul>
Activator CS	Combination of Active Zinc Derivatives + carrier	<b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; vulcanization activator with minimum zinc content warranting better physical properties</li> <li>&gt; produced according to the "Core-Shell" principle</li> </ul>
Zinc Carbonate RAC	Hydrozincite, Zinc Oxide	<b>Sulfur Absorption</b> <ul style="list-style-type: none"> <li>&gt; for hydrogen sulfide removal (e.g. in oil and gas exploration)</li> <li>&gt; fertilizer</li> <li>&gt; highly active zinc compound, excellent cost/performance ratio</li> </ul>
Zinc Carbonate AC	Hydrozincite, Zinc Oxide	<b>Chemical Industry</b> <ul style="list-style-type: none"> <li>&gt; raw material for organic zinc derivatives (e.g. zinc soap and zinc salt, catalyst, cosmetic and home care products)</li> <li>&gt; high purity and reactivity</li> </ul> <b>Rubber Industry</b> <ul style="list-style-type: none"> <li>&gt; activator for sulfur and thiuram vulcanization</li> <li>&gt; for production of transparent and translucent rubber articles</li> </ul>
Zinc Oxide Pharma	Zinc Oxide, 99,8 %	<b>Indirect Zinc Oxide</b> <ul style="list-style-type: none"> <li>&gt; compliant with pharmacopoeia EP, USP and BP</li> <li>&gt; applications in cosmetic industry</li> </ul>
Zinc Oxide White Seal	Zinc Oxide, 99,7 %	<b>Indirect Zinc Oxide</b> <ul style="list-style-type: none"> <li>&gt; high purity, fine particle structure</li> <li>&gt; wide ranges of application</li> <li>&gt; plastic, rubber and chemical industry, paints</li> </ul>
Zinc Oxide Red Seal	Zinc Oxide, 99,4 %	<b>Indirect Zinc Oxide</b> <ul style="list-style-type: none"> <li>&gt; usable in all common applications (e.g. varnishes and paints)</li> <li>&gt; well known and used in rubber industry</li> </ul>
Zinc Oxide Special	Zinc Oxide, 99,2 %	<b>Direct Zinc Oxide</b> <ul style="list-style-type: none"> <li>&gt; ZnO with a wide range of applications</li> <li>&gt; very good application characteristics in: glass, enamel, ceramic industries, chemical industry, oil additive, rubber industry, lubricants</li> </ul>

# Bruggolit®/Blancolen® – Reducing and Antioxidant Agents

Product	Composition	Applications and Characteristics
Bruggolite®FF6M	Sulfinic Acid Derivative	<b>Formaldehyde free Reducing Agent</b> > high reactivity grade > enhanced performance in removal of residual monomers > non yellowing > microgranules
Reducing Agent TP 1651		<b>Formaldehyde free Reducing Agent</b> > high process robustness > specially suitable for styrene acrylate based systems
Bruggolite®E28		<b>Formaldehyde free Reducing Agent</b> > high reactivity grade > specially suitable for low pH systems > non yellowing
Bruggolite®FF7	Sulfinic Acid Derivative	<b>Formaldehyde free Reducing Agent</b> > high reactivity grade > enhanced performance in removal of residual monomers > non yellowing
Blancolene®HP		<b>Antioxidant</b> > applicable to latices and solids > heat resistant up to 200 °C > prevents yellowing in polymers
Bruggolite®E01	Sodium Formaldehyde Sulfoxylate	<b>Reducing Agent</b> > for water-based polymerization and textile industry > powder or granules
Bruggolite®NF	Sodium Formaldehyde Sulfoxylate	<b>“Pharma” Reducing Agent</b> > Pharmaceutical quality > specified and tested according to the latest issue of USP
Bruggolite®L40	Stabilized Solution of Sodium Formaldehyde Sulfoxylate	<b>Liquid Reducing Agent</b> > for water-based polymerization and textile industry > water-based solution ready for processing > optimization of handling
Bruggolite® No 5	Stabilized Solution of Sodium Formaldehyde Sulfoxylate	<b>Liquid Reducing Agent</b> > for textile industry > odor optimized
Blancolene®T	Sulfinic Acid Derivative	<b>Reducing Agent</b> > specially stabilized for the production of titanium dioxide > improved whiteness > better process reliability in comparison to trivalent-system
Blancolene®TL	Sulfinic Acid Derivative	<b>Liquid Reducing Agent</b> > specially stabilized for the production of titanium dioxide > water-based solution ready for processing > improved whiteness by reduction of transition metals > better process reliability in comparison to trivalent-system, optimization of handling
Sodium Hydrosulfite S, N, F	Sodium Dithionite	<b>Reducing Agent</b> > printing and dyeing in the textile and leather industry > bleaching of minerals and aluminum oxides > water treatment e.g. in the galvanization industry > for the bleaching of wood pulp, and recycled paper
Blancolene®K	Sodium Dithionite	<b>Reducing Agent</b> > bleaching of animal fibers, vegetable fibers, and synthetic fibers
Blancolene®RH	Sodium Dithionite	<b>Reducing Agent</b> > bleaching of recycling paper

**Active Zinc Derivatives – our speciality**

Brüggemann is specialized in the production of active zinc derivatives with a very high specific surface area manufactured under special conditions. This product innovation enables us to create an optimum formulation for a wide range of applications. Together with our new fully equipped Technical Center and our customers we constantly develop and improve our products. Our product program also encompasses direct and indirect zinc oxide. Therefore we are able to support almost every application.

**Zinc Carbonate – a long-standing product with big potential**

Brüggemann has a long-standing experience in the production of zinc carbonates. High quality and efficiency are required by a wide range of applications in the chemical, pharmaceutical and cosmetic industries. Ever increasing demands create new challenges resulting in individual solutions developed together with our customers.

### **Manufacturer and Application Specialist – Reducing Agents and Highly Active Zinc Derivatives**

Brüggemann is the only manufacturer of Sodium Formaldehyde Sulfoxylate (SFS) in the Western World. As a leading manufacturer committed to R&D in the field of sulfur-based reducing agents, Brüggemann offers a broad portfolio of sulfinic acid derivatives (**Brüggolit®** and **Blancolen®**).

New processes and procedures improve the efficiency of our zinc derivatives thus opening up new application areas. Our active zinc oxides stand for optimum benefit to the customer. Our aim is to offer innovative, easy to use products in different delivery forms, such as powder, granulate, or aqueous concentrates. High quality standards and reactivity allow for efficient dosage and competitive advantages.

### **Second Generation Core-Shell Zinc Derivatives and new vulcanization activators for sustainable rubber compounding**

Brüggemann successfully applied the Core-Shell-Technology on zinc derivatives. The new materials **Activator CS2, Zinkoxid RAC CS2** and **ZnO ProSeries** feature highly effective zinc ions that provide best performance in rubber application – with at the same time reduced zinc content. These products are designed to exchange all standard zinc oxides 1:1.

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