



**asg** chemie



## CONCRETE ADMIXTURES

**We supply both local admixture companies and the major multinational concrete admixture manufacturers throughout North America.**

Our expansive range of raw materials offers a proven platform for the formulation and engineering of chemistries for achieving heat of hydration, accelerating or retarding setting times, workability, water reduction, dispersion and air-entrainment, impermeability and durability factors.

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## RETARDERS

### Liquid glucose

Available as a 60% concentrated solids solution with pre-blended biocides, liquid glucose offers retardation as well as moderate levels of plasticization. Liquid glucose is extremely well suited to high temperature environments.

### Sodium gluconate

Sodium gluconate works by delaying both the initial and final setting time of wet concrete allowing for longer working time. Relatively small dosage levels are required and minimal impacts on the strength of concrete are observed. Sodium gluconate also has the added advantage of water reduction and plasticity.

### Phosphonate Retarders

Phosphonate retarders are the next generation in cement admixture technology. Highly effective for long periods of time, phosphonate retarders are also predictable due to their linear relationship between setting time and dosage rate. There are a range of chemistries available including HEDP, ATMP, PBTC and more.

### Citric Acid

Citric acid is a weak organic acid, found naturally in many types of fruit. In the concrete admixture industry, citric acid works as a general-purpose retarder and can also improve the flow and pumpability of ready-mix concrete.

## ACCELERATORS

### Aluminium Hydroxide

Aluminium hydroxide is an alkali free, versatile chemical admixture that can be used to enhance the performance of concrete and shotcrete. Aluminium hydroxide also accelerates the setting time of the concrete and shotcrete, making it ideal for applications that require rapid hardening and early support.

### Aluminium Sulfate

Aluminium sulfate is an alkali-free additive that used as the primary component of shotcrete accelerating admixtures. Other benefits include fast setting, high early strengths and low permeability of concrete. Aluminium sulfate is a cost-effective and reliable solution for improving the quality and efficiency of concrete.

### Calcium Nitrate (Ammonia Free)

Available as both a water soluble crystal and a 50% solution, calcium nitrate is a chloride-free additive that does not cause corrosion to reinforcement steel. Calcium nitrate can effectively speed up the setting and hardening of concrete, especially at low temperatures.

### Oxalic Acid

Oxalic acid acts both as an accelerator by increasing the setting and hardening time of concrete, as well as offering mild resistance to acid attacks.

### Sodium Aluminate

Sodium aluminate is a flowable white powder that is readily dissolvable in water, with a high concentration alumina oxide. In cement applications, sodium aluminate is an effective accelerator & hardness enhancer, commonly used to accelerate shotcrete. Sodium aluminate also has the added advantage of working well in cold climates and when frost is present.

### Sodium Thiocyanate

Sodium thiocyanate is an important concrete admixture, which improves initial strength and set hardening. More recently, sodium thiocyanate is also being used in cement grinding aids as a strength promoter. Typically sold as a 50% solution, a powder is also available.

## REACTIVE BINDERS, NANO SILICA PROMOTERS FOR CSH REACTIONS

### COLLOIDAL SILICA / NANO SOLS - COLLOIDAL-SIL™

COLLOIDAL-SIL™ colloidal silica / nano sols promote pozzolanic activity and CSH gel creation, and set acceleration. Enhances early stage compressive strength, improves pumpability, reduces rebound, provides reduction in thickening time and decreases permeability. Provides bleed and segregation control.

Recommended Grades (NS6)15, (NS6)15, (NS7)15, (NS7)15 C, (NS8)20, (NS8)20, (NS20)40, (NS20)40

### Strontium Nitrate (SRNO3)2

Strontium Nitrate 30% is an aqueous non-alkali, non silica ionic chemical solution which enhances and promotes CSH reactions.

## CORROSION INHIBITORS

### Calcium Nitrite

Calcium nitrite is a chloride free, low temperature accelerator and a highly effective corrosion inhibitor. Calcium nitrite is recommended for marine environments as well as for large concrete pours where protecting steel reinforcement is critical.

### Lith™ LiNO3 Admixture

Lith™ LiNO3 Admixture is a lithium nitrate based liquid admixture designed for use in concrete for the prevention and control of Alkali Silica Reactivity (ASR).

### Lith™ ASR Mitigation Treatment

Lith™ ASR Mitigation Treatment is a surfaced applied penetrating lithium solution to help reduce expansion due to Alkali Silica Reactivity (ASR) in hardened concrete.

## WATER REDUCERS / PLASTICIZERS

### Polycarboxylates – CONTROL™ PCE

CONTROL™ is a high end superplasticizer based on the latest polycarboxylate technology. At extremely low addition rates, CONTROL™ offers high levels of water reduction and flow. CONTROL™ is recommended for high performance concrete applications such as high-rise residential buildings, bridges, tunnels and other civil project applications.

### Lignosulfonates – LIGNO-SIL™

LIGNO-SIL™ lignosulfonates are organic substances, being a natural polymer from the production of wood pulp using the sulfite process. In concrete applications, sodium lignosulfonate is a low-range water reducer with moderate retardation effects. Available as both a liquid and a powder.

### Melamine Sulfonate

Melamine sulfonate can reduce the water content of concrete by up to 40%, while still allowing for fluidity and workability. In addition, melamine sulfonate can also improve strength and durability of concrete by enhancing the dispersion of the cement particles.

### Naphthalene Sulfonate

Naphthalene sulfonates are widely used in building chemistry as a superplasticizer for their dispersing and wetting abilities. They come in different forms (calcium and sodium salt) and various levels of sodium sulfate %. Naphthalene sulfonate creates concrete that is more workable and fluid by using less water and more slump.

## GRINDING AIDS

### Diethanolisopropanolamine (DEIPA)

As an alkanol amine-based chemical additive, DEIPA improves both cement strength performance as well as the efficiency of the grinding process. Other benefits of DEIPA include improved workability and faster setting times.

### Ethylene Glycols (MEG, DEG & TEG)

Ethylene glycols are organic compounds widely used in the cement grinding process to improve efficiency by helping to reduce energy consumption. Ethylene glycols work by coating the surface of the cement particles and preventing agglomeration and are effective at low dosages.

### Triethanolamine (TEA)

Triethanolamine (TEA) is a component of cement grinding aid formulations and concrete additives. Besides helping the grinding process of the clinker, TEA also enhances the properties of cements at different stages of hydration and improves the performance of cements mixed with fly ash and slag.

### Triisopropanolamine (TIPA)

TIPA is an amine based chemical additive that is both a cement strength enhancer as well as an efficiency aid in the cement grinding process. TIPA also improves the flow of the cement particles and prevents the cement from clumping.

## OTHER FUNCTIONAL ADDITIVES

### Air Entraining Agents

Air entraining agents create a system of tiny and isolated air pockets that make concrete structures more durable against freezing and thawing cycles. We have a variety of air entraining agents that use fatty alcohol and other exclusive surface-active substances.

### Sodium Nitrite

Sodium Nitrite is used as an anti-freezing agent in low temperature concrete, its addition also improves early strength development. Available in a 40% solution and a powder, both with and without anti-cake additives.

### TIBP / TBP Defoamers

Tri-isobutyl phosphate (TIBP) is a strong solvent that prevents and eliminates foam in water-based systems. It can also help to avoid freezing and foaming in aqueous solutions. TIBP can be used together with TIPA and DEIPA to make cement grinding aids (CGAs) that improve the grinding process and the properties of cement.



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