



# *Novochem* Fertilizer Additives

## *The Art of Chemical Processing*

Solid fertilizers are sensitive to caking, moisture uptake and /or dust formation. Novochem Fertilizer Additives both develops and commercializes specific additives to keep the fertilizer in excellent condition. Novochem Fertilizer Additives has been one of the leading global suppliers in this market for many years.

One of our added values is to develop a custom made treatment for the quality, packing, transport and storage conditions of the fertilizer. Our final aim is to obtain the best treatment with respect to both quality and economics without the fertilizer manufacturer being limited in the choice of raw materials. Novochem Fertilizer Additives has a highly experienced technical staff and a well-equipped R&D fertilizer laboratory in order to reach this aim in close cooperation with you. Several successful inventions of Novochem Fertilizer Additives have been filed in patents worldwide.

The Novochem Fertilizer Additives range of products is composed as follows;

| <u>Application</u>              | <u>Trade name</u> |
|---------------------------------|-------------------|
| Anti-caking agents              | NovoFlow          |
| Concentrated anti-caking agents | NovoFlake         |
| Moisture repellency agents      | NovoFlow          |
| Dedusting agents                | NovoDust          |
| Coloring agents                 | NovoTint          |
| Granulation additives           | NovoTec           |
| Corrosion inhibitors            | NovoCor/Corblok   |
| Anti-foam agents                | NovoFoam          |
| Flocculants                     | NovoFloc          |

## *Coloring Agents*

### Create Recognition by Coloring

Some fertilizer end-users prefer a uniform colored product or a fertilizer with a specific color. This occurs often when blends contain different grades with variations in color. By application of NovoTint coloring can be obtained as required. Moreover, NovoTint possesses strong dust binding properties and shows excellent UV-stability.

*NovoTint is available in the following colors. Mixtures of below mentioned colors are also possible!*

Black  
Blue  
Brown  
Green  
Red  
Yellow

## *Foam Protection for Phosphoric Acid Process*

### Control Foam Formation in the Phosphoric Acid Process

Novochem Fertilizer Additives offers very effective anti-foaming agents under the name of **NovoFoam**. **NovoFoam** is especially designed to control foam formation during the reaction of sedimentary phosphate rock with acids in the wet processes.

## *Flocculants*

### Specific Flocculants for the Phosphoric Acid Process

Novochem Fertilizer Additives has a broad range of flocculants to optimize industrial processes under the name **NovoFloc**. The products can improve the filtration rate of a phosphoric acid-gypsum slurry, resulting in lower P205-losses. Moreover, they can act as a clarifying agent to separate solid particles from acids more readily.

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**Novochem Group**  
*fertilizer additives*

## ***Novochem Group***

Novochem Fertilizer Additives belongs to the Novochem Group.

The Novochem Group has three other business units, being;

- Novochem Water Treatment
- Novochem Technical Coatings
- Novochem Distribution

For any questions about these businesses please feel free to contact us.

## ***Product Innovation***

Novochem Fertilizer Additives offers the possibility for tailor made product development according to the customer's specific requirements. Our R&D facilities are at your disposal!

Novochem Fertilizer Additives especially excels at:

1. Anti-caking agents for solid materials
2. Moisture repellency additives
3. Anti-dust agents for solid materials
4. Corrosion inhibitors for salt solutions
5. Environmentally friendly fertilizer additives

In addition we can offer sustainable solutions in closely related subjects.

## ***Trouble Shooting***

Novochem Fertilizer Additives offers trouble shooting services to prevent caking, moisture uptake and/or dust formation during storage, transport, or handling of fertilizers.

Novochem Fertilizer Additives offers a custom made treatment package, which includes the coating agent, dosing equipment and, if required, technical assistance.

Contact us, and we shall draw up a sound plan with you.



## ***Caking Protection***

### **Free Flowing Fertilizer Granules**

During storage and transport fertilizers often show a caking tendency due to temperature, humidity and pressure. Novochem Fertilizer Additives offers an extensive line of anti-caking agents under the trade name **NovoFlow**. Depending on its composition **NovoFlow** can have strong anti-caking, moisture repellency and / or dedusting properties. The application of **NovoFlow** is adjusted to the specific fertilizer properties, production process, storage conditions and climatic conditions.

#### ***Our products***

Novochem Fertilizer Additives also offers coating concentrates under the brand **NovoFlow** (liquid concentrate) and **NovoFlake** (solid concentrate). These products should be diluted with a suitable oil on-site.

## ***Moisture Protection***

### **Fertilizer Granules Protected against Moisture**

Many fertilizers are sensitive to changes in temperature and humidity. It can result in caking and / or dust. Most traditional coating agents do not give sufficient protection against moisture uptake. Novochem Fertilizer Additives has been a specialist in moisture repellency for many years. This technology can be combined with anti-caking protection. Several patents have been filed within this field.

*NovoFlow coating agents are available for each type of production process, such as blending, prilling, granulation and crystallization, and for each type of fertilizer*

Ammonium Nitrate (AN)  
Calcium Ammonium Nitrate (CAN)  
NPK/NK/PK/NP  
Urea  
Ammonium Sulfate  
Ammonium Phosphate  
Potassium Chloride  
Potassium Sulfate  
Potassium Nitrate  
Potassium Nitrite  
Blends  
Sodium salts

*The coating agents are applied on the following moisture sensitive fertilizer types*

Ammonium Nitrate (AN)  
Calcium Ammonium Nitrate (CAN)  
Calcium Nitrate (CN)  
Urea - Ammonium Sulfate

## ***Corrosion Protection***

### ***Liquid Fertilizer***

*The brands NovoCor and CorBlok are the corrosion inhibitors, they are suitable for the treatment of the following liquid fertilizers*

UAN - solution  
AN - solution

*NovoDust can be applied on the following fertilizers*

Ammonium Nitrate (AN)  
Calcium Ammonium Nitrate (CAN)  
NPK/NK/PK/NP  
Urea  
Ammonium Sulfate  
Ammonium Phosphate  
Potassium Chloride  
Potassium Sulfate  
Potassium Nitrate  
Blends

*NovoTec is available for the following fertilizers*

Ammonium Nitrate (AN)  
Calcium Ammonium Nitrate (CAN)  
Urea  
Low - density Ammonium Nitrate (LDAN)

## ***Corrosion Protection for***

### ***Liquid Fertilizer***

### **The Best Corrosion Inhibitor for Liquid Fertilizer**

Liquid fertilizers are usually very corrosive, making the addition of an effective corrosion inhibitor crucial. Novochem Fertilizer Additives is the leading company in the development and marketing of corrosion inhibitors for various types of liquid fertilizer. Upon addition of the corrosion inhibitor metal surfaces and welds are maintained in excellent condition during the whole process from the production unit until the end user. Novochem Fertilizer Additives products provide optimal sustainable protection.

## ***Dust Protection***

### **Safe Handling of Products Sensitive to Dust**

The excessive release of dust during the transport of fertilizer is an ever growing concern due to stricter environmental and safety regulations and also due to an increased attention to a clean working place. With the application of **NovoDust** coatings the emission of dust is strongly reduced.

## ***Granulation Additives***

### **Improvement of the Fertilizer Granule from Scratch**

Novochem Fertilizer Additives offers granulation additives by the name of **NovoTec**. These products are applied to optimize the production process and / or improve the fertilizer granule quality. Several technologies have been patented by Novochem Fertilizer Additives.