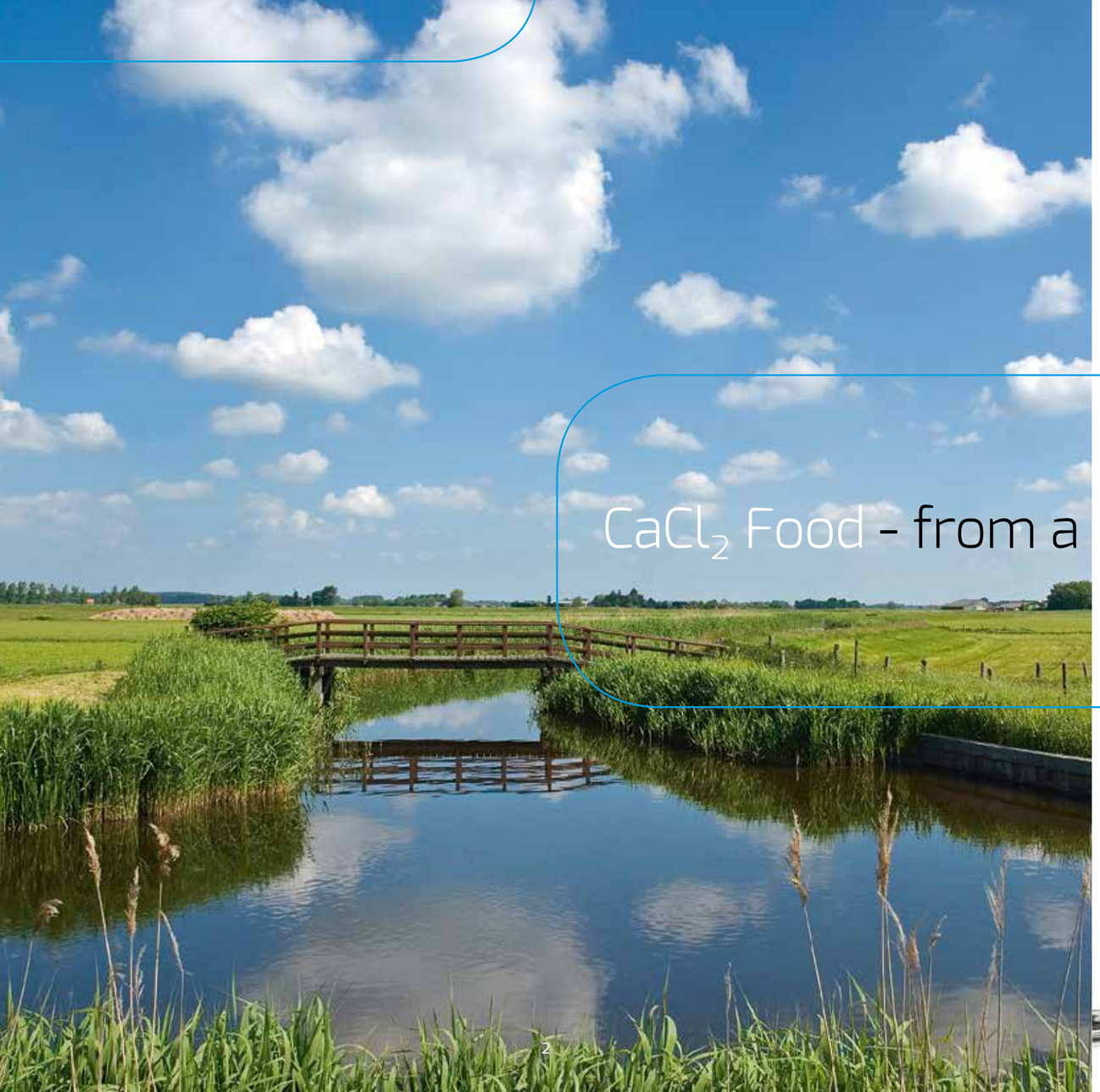
$CaCl_2$ food

Perfectly produced in the Netherlands

NEDMAG

www.nedmag.com

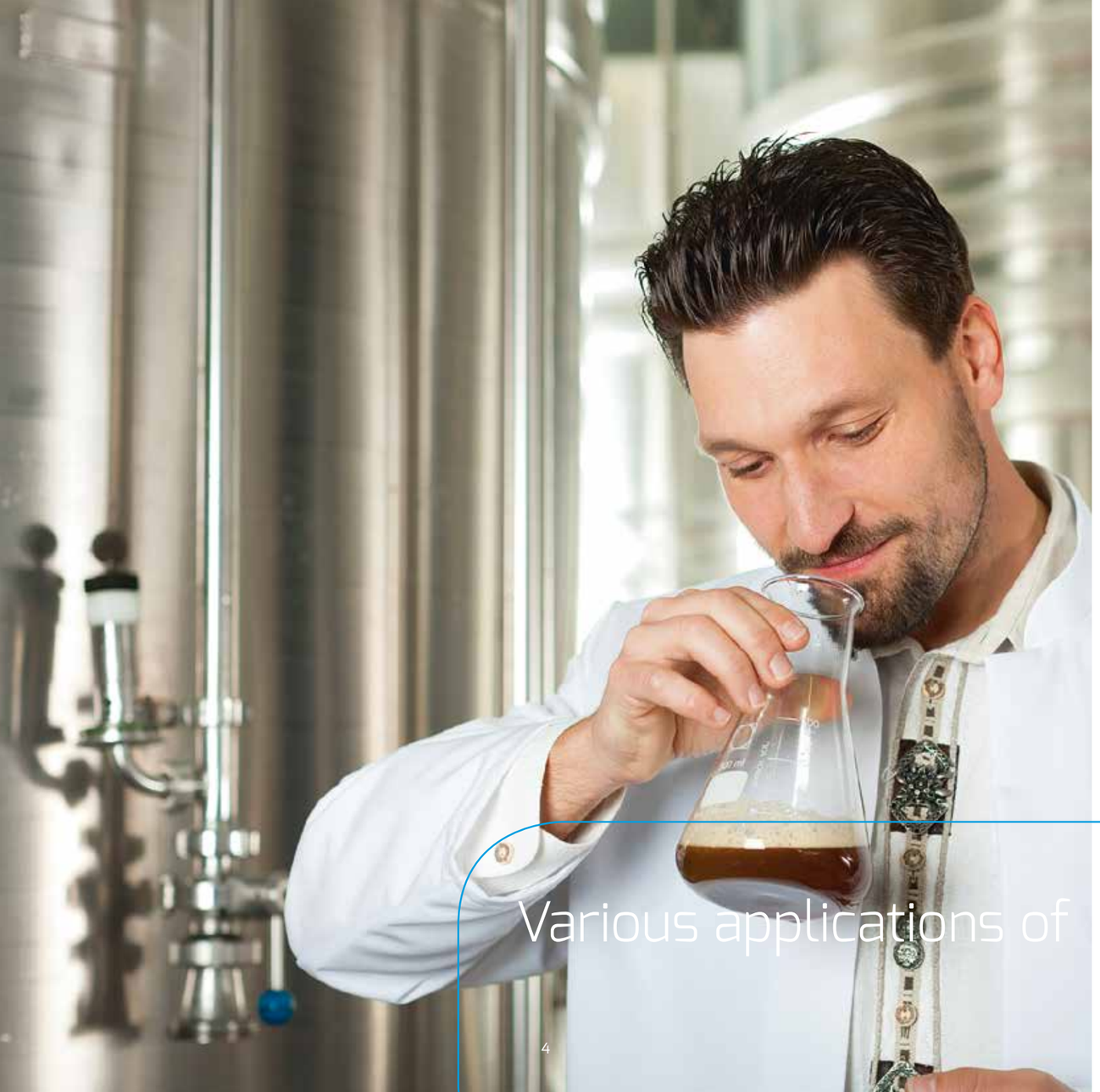


$CaCl_2$ Food - from a reliable source

Nedmag Industries is a leading producer of calcium chloride. Our production is carefully tuned to the various areas of application. Our calcium chloride for food applications finds its way to food producers all over the world. Various top brands rely on the quality of **Nedmag $CaCl_2$ Food.**

No doubt the Dutch origin explains part of the success of **Nedmag $CaCl_2$ Food**. The Netherlands is the second largest food exporting country in the world. It is the home base of large food multinationals. The Netherlands also plays a prominent global role in the areas of water treatment and water technology. In this innovative and highly competitive environment suppliers have to do their utmost to meet customer needs.

Based on some important themes we will demonstrate that you can rely on **Nedmag $CaCl_2$ Food**:

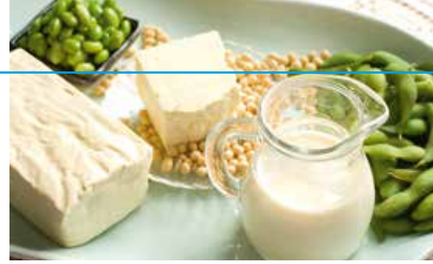


Various applications of Nedmag $CaCl_2$ Food

Cheese production
Calcium chloride is used in the production of cheese to achieve firmer and larger curds. It is often added as a coagulant to the milk at the beginning of the process. The higher the calcium content of the milk, the easier it is to form rennet. When calcium chloride is used in the right quantities, substantial savings can be made on cheese cultures.

Beer brewery
Of all the factors that may affect the taste of beer, water quality is probably the most important. Breweries are dependent on a reliable source of water and in-depth knowledge of water treatment techniques. Calcium chloride is an essential raw material to achieve the ideal pH values and mineral levels and thus the desired quality of water.

Horticultural products
Harvested fruits and vegetables usually have a limited shelf life. Companies processing and preserving such fresh products, know that calcium chloride can often prevent deterioration in quality. Calcium chloride allows fruits and vegetables to remain firm for longer periods of time. Calcium chloride is used to preserve pickled gherkins - its extremely salty taste adds flavour to the gherkins without increasing the salt content of the food. Calcium chloride can also be used as a firming agent for canned vegetables.



Other food applications
Calcium chloride can be used in the production of tofu from soybean curd. It is also widely used as an electrolyte in sports drinks and other beverages, including bottled water.

How about your food process?
There are numerous other applications of food grade calcium chloride. Perhaps you are involved in the production of ice cream or in the processing of meat products. Or you might be thinking of developing a new application yourself. On request we can customize our product or mode of supply to your specific requirements.

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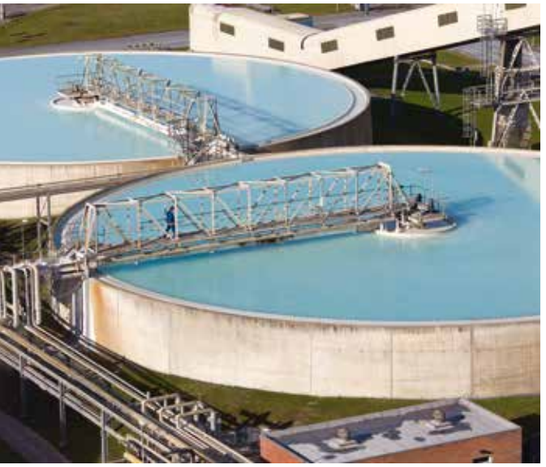
Environmentally friendly production from natural raw materials

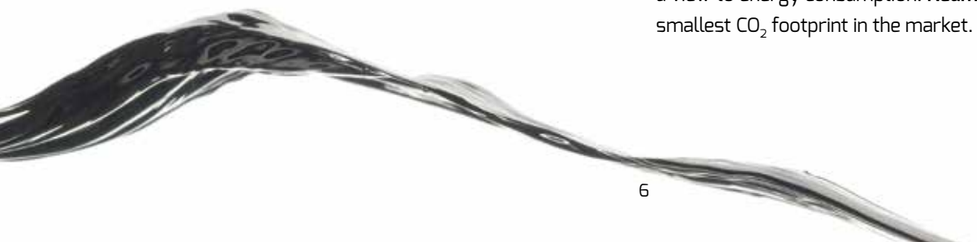


Most suppliers of food grade calcium chloride use hydrochloric acid (HCl) in the production process. They obtain this hydrochloric acid from other chemical industries, often as a by-product from certain chemical processes. The relatively aggressive hydrochloric acid is a risk factor during storage and transportation.

Nedmag $CaCl_2$ Food is produced from the natural minerals bischofite and dolomite. Nedmag extracts the bischofite itself from one of the largest and purest sources in the world, in Veendam in the Netherlands and processes it on site to magnesium chloride.

The dolomite comes from Nedmag partner Lhoist in Belgium and is transported by train to the Nedmag plant in Veendam. The calcium-containing mineral reacts with magnesium chloride to produce, among other things, high-grade calcium chloride.

This production process has been continually optimized during the past few decades. Not only in terms of purity, but also with a view to energy consumption. **Nedmag $CaCl_2$ Food** has the smallest CO_2 footprint in the market.



Nedmag's quality management system is ISO 22000, ISO 9001 and GMP+ certified. This ensures that **Nedmag $CaCl_2$ Food** meets the international food safety requirements, as specified in the EU regulations and the Food Chemical Codex.

Every batch of food grade liquid and food grade prills is analysed for heavy metals by qualified employees of Nedmag's own laboratory. State-of-the art analytical equipment such as ICP-AES is used for this purpose.

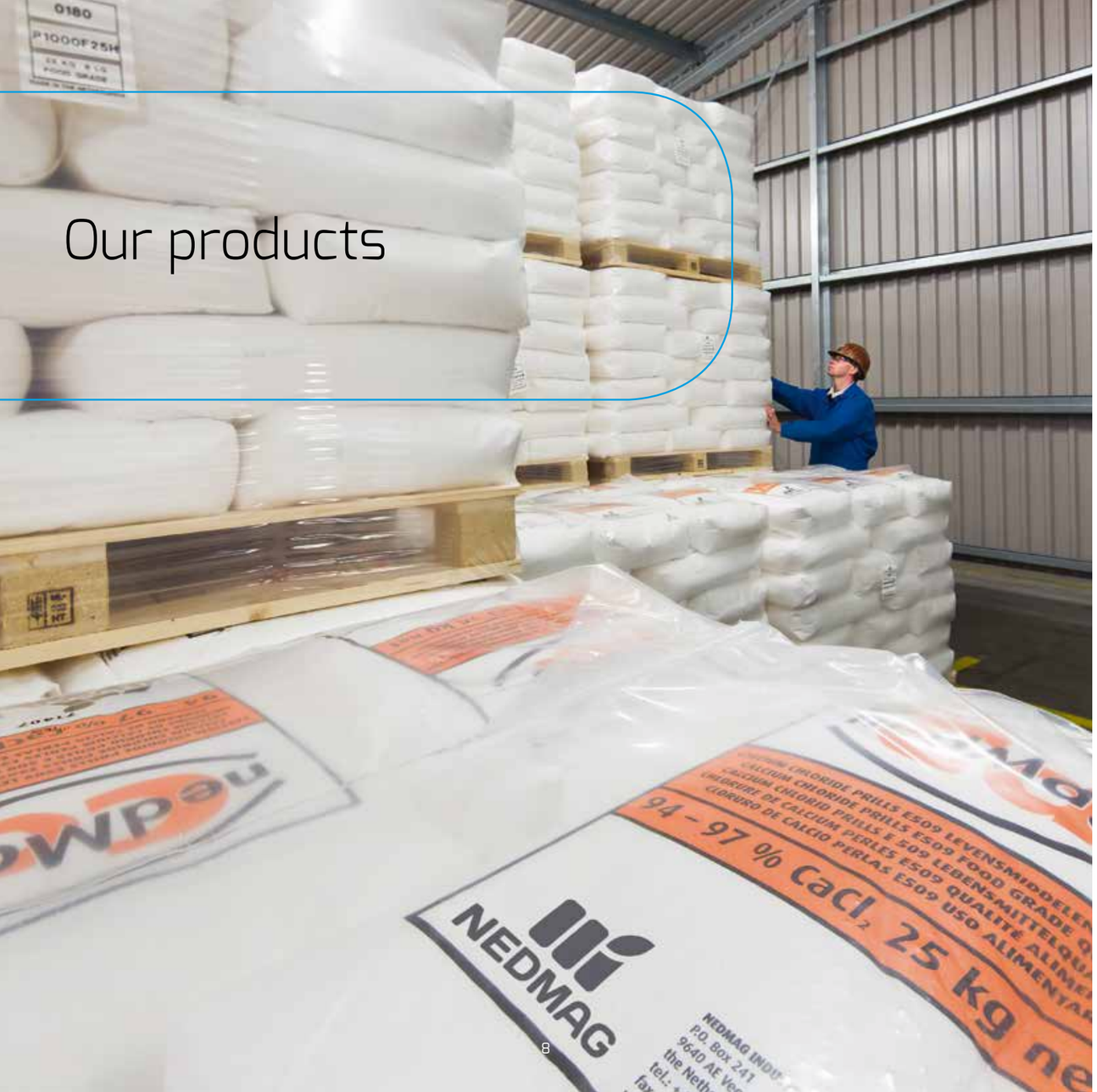
The quality of the water used in the production process is monitored by means of an early warning system based on biomonitoring. This type of monitoring system is also used by drinking water companies. Nedmag is the first calcium chloride producer to use this technology.

Quality control at **Nedmag $CaCl_2$ Food**, based on the HACCP plan, is not restricted to the analysis of the finished product. Nedmag also sets stringent requirements for transport.
For food grade deliveries, we work with selected regular transporters, with whom we have made agreements about the methods of cleaning. Prior to each food grade shipment, a Nedmag employee inspects the loading compartments of the tanker truck. After loading, the employee again performs a visual inspection.

Meeting your food quality demands

NEDMAG

Our products



Nedmag $CaCl_2$ Food is available as a 34% and a 36% solution. They are delivered in tankers of up to 25 m^3.

Nedmag $CaCl_2$ Food is also available in solid form. These prills have a $CaCl_2$ content of 96% and are supplied in 25 kg bags.

The composition of our products obviously meets all current standards, including:

- EU Food Additive Regulation (E509)
- Food Chemical Codex
- 19th JECFA (1975) and 63rd JECFA (2004); **Nedmag $CaCl_2$ Food** passed both the Chloride and the Calcium test.

Chemical composition of **Nedmag $CaCl_2$ Food**:

		$CaCl_2$ Food - Liquid 34%			**$CaCl_2$ Food** - Liquid 36%			**$CaCl_2$ Food** - Prills		
Product properties			**Typical**	**Specification**		**Typical**	**Specification**		**Typical**	**Specification**
$CaCl_2$		g/l	455	> 445	g/l	490	> 480	%	96	> 94.0
Mg and alkali salts*		%	3	< 5	%	3	< 5	%	3	< 5
Alkalinity (as $Ca(OH)_2$)								%	0.1	< 0.15
pH			5	4 - 7		5	4 - 7			
pH (aqueous solution 10%)									10	
Density		kg/l	1.34	> 1.33	kg/l	1.36	> 1.35			
SO_4		g/l	0.1	< 0.5	g/l	0.1	< 0.5	%	< 00.5	< 0.1
Ba		g/l	0.25	< 0.40	g/l	0.25	< 0.40	%	< 00.5	< 0.08
Fe		mg/l	< 1	< 3	mg/l	< 1	< 3	mg/kg	< 2	< 5
Cu*	**	mg/kg	< 0.30	< 2	mg/kg	< 0.30	< 2	mg/kg	< 0,28	< 2
Zn*	**	mg/kg	0.18	< 2	mg/kg	0.18	< 2	mg/kg	0,15	< 2
F*		mg/kg	< 10	< 10	mg/kg	< 10	< 10	mg/kg	< 10	< 10
As*		mg/kg	< 0.005	< 0.03	mg/kg	< 0.005	< 0.03	mg/kg	< 0.005	< 0.03
Pb*		mg/kg	< 1.6	< 2	mg/kg	< 1.6	< 2	mg/kg	< 1,5	< 2
Hg*		mg/kg	< 0.004	< 0.03	mg/kg	< 0.004	< 0.03	mg/kg	< 0.004	< 0.03

* on anhydrous basis
** sum Cu and Zn max. 50 mg/kg

Nedmag Industries - Getting you closer to perfection

Nedmag Industries Mining & Manufacturing B.V. is a Netherlands based producer of magnesium oxide, magnesium chloride, magnesium hydroxide and calcium chloride. Nedmag's products find their way to customers in several market segments and applications worldwide. The main markets served by Nedmag are the refractory market, the oil & gas exploration, de-icing and dedusting applications, flame retardants and of course the food industry.

Nedmag Industries was founded in 1981, by Shell/Billiton, after very pure and unique magnesium salt deposits were discovered in the North-East part of The Netherlands. The salt deposits, situated at a depth of over 1500 meters, were formed in the later Permian 250 million years ago. Nedmag succeeded in extracting these salts to the surface by using a unique mining method, called solution mining. The thus obtained magnesium chloride brine is the key raw material for the production of Dead Burned Magnesia.

Another crucial material in the production process is selective mined dolomite from the Belgian Meuse-valley. Our dolime supplier Lhoist is one of our shareholders, granting continuous availability of this raw material. Nedmag has an installed production capacity of more than 100,000 tons of calcium chloride per annum, in various qualities for various applications.

Nedmag Industries Mining & Manufacturing BV is owned by the Lhoist group and the NOM. Lhoist is a leading Belgium producer of lime and dolime. NOM is a Dutch direct investment agency for the Northern Netherlands.

Nedmag Industries
Mining & Manufacturing B.V.
P.O. Box 241
9640 AE Veendam
The Netherlands

T +31 598 651 911
F +31 598 651 205
E sales@nedmag.nl
I www.nedmag.com

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www.nedmag.com