



# Calvatis GmbH

## Wassertreatment





## Your partner for... ...innovative hygiene management

Calvatis is one of the leading independent manufacturers of cleaning and disinfection products. We offer our customers individual hygiene concepts based on this experience. Calvatis has been successfully represented in the global market for over 75 years with its calgonit product range.

### The main applications are in

- Hygiene consulting and hygiene management
- Beverage industry
- Food industry
- Institutions
- Milk-processing industry
- Agriculture
- Equipment and systems technology
- Water treatment
- Laundry
- Production to order

**calvatis**  
**calgonit**  
industrial

Calvatis has a mature product range of over 1,000 branded products in the calgonit product lines and can therefore provide integrated hygiene concepts for all areas.

Calvatis develops and produces at its Ladenburg site in Germany, from where it also coordinates global sales of products and services.

Calvatis products and the company's comprehensive services provide all customers with top quality at an optimal price/performance ratio.

Calvatis is certified according to ► DIN EN ISO 9001 and ► DIN EN ISO 14001

Calvatis specialises in the production of cleaning and disinfection products, particularly when it comes to services, to ensure clear differentiation from competitors.

High quality and environmental awareness are second nature for Calvatis, are lived, maintained and continuously adapted to the increasing demands in the market.

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# Boiler water treatment



# Oxygen scavenger

Neutral

## calgonit WTB 28

calgonit WTB 28 is an oxygen scavenger, based on ascorbic acid in neutralized form. calgonit WTB 28 reacts very fast with oxygen in feed and boiler water, building a magnetite layer, to protect the system from corrosion. calgonit WTB 28 and calgonit WTB 38 are recommended for a complete boiler water treatment when FDA approval is required because the steam is coming in direct contact with food.

25 kg  
77162400



- ✓ Reduces oxygen corrosion
- ✓ Very fast reaction with oxygen
- ✓ Forms magnetite layer
- ✓ Easy to use
- ✓ Suitable when steam contact with food stuffs



## calgonit WTB 60

calgonit WTB 60 is a non volatile oxygen scavenger that binds reliable and very fast residual oxygen in feed and boiler water even at low temperatures. calgonit WTB 60 is especially suitable for boiler systems fed with soft or semi demineralized water; approved for boiler systems with low pressure. calgonit WTB 60 is also suitable for preservation of boiler systems as well as hot water systems and heating systems.



- ✓ Reduces oxygen corrosion
- ✓ Catalyzed for fast reaction time
- ✓ Minimizes handling and mixing
- ✓ Suitable for low pressure boilers

26 kg  
77101401



# Multifunctional products

## Alkaline

### calgonit WTB 29



calgonit WTB 29 is a blend of an oxygen scavenger, based on ascorbic acid in neutralized form, and neutralizing amines with a different partition coefficient steam/water. calgonit WTB 29 reacts very fast with oxygen in feed and boiler water, building a magnetite layer to protect the system from corrosion. calgonit WTB 29 and calgonit WTB 38 are recommended for a complete boiler water treatment when FDA approval of the ingredients is required because the steam is coming in direct contact with food.

 23 kg  
77163400

- ✓ Reduces oxygen corrosion
- ✓ Very fast reaction with oxygen
- ✓ Forms magnetite layer
- ✓ Easy to use
- ✓ Suitable when steam contact with food stuffs

### calgonit WTB 22

25 kg  
77158400



calgonit WTB 22 is a liquid oxygen scavenger and sludge conditioner recommended for low-medium pressure boiler systems (<20 bars). calgonit WTB 22 contains a very fast oxygen scavenger, active even at low temperatures, and specific polymers that inhibits the carbonate and iron deposits into feeding pipeline and steam generator. calgonit WTB 22 is not volatile and the ingredients are FDA approved.

- ✓ prevents deposits
- ✓ very fast reaction with oxygen at low temperatures
- ✓ easy to use and detectable



### calgonit WTB 31

23 kg  
77165400



calgonit WTB 31 is a liquid oxygen scavenger and sludge conditioner recommended for low and medium pressure boiler system (<40 bars). calgonit WTB 31 contains a very fast oxygen scavenger based on organic acid with high passivity effect. Specific polymers inhibit the carbonate and iron deposits in boiler systems. calgonit WTB 31 is not volatile and suitable when the steam is coming in direct contact with food because all ingredients are FDA listed.

- ✓ Prevents deposits and keeps the heat transfer surfaces clean
- ✓ Very fast reaction with oxygen
- ✓ Forms magnetite layer
- ✓ Easy to use
- ✓ Suitable when steam contact with food stuffs



### calgonit WTB 61



calgonit WTB 61 is a multi functional product for treatment of boilers. A blend of oxygen scavengers, dispersing agents, antisca- lants and amines guarantees corrosion inhibition, scale prevention, sludge conditioning and condensate treatment. calgonit WTB 61 uses very fast catalyzed oxygen scavengers and very effective scale inhibitors as well as sludge conditioning agents. The contained amines have an excellent CO<sub>2</sub> neutralizing action along the pipelines of the entire plant.

- ✓ Complete boiler treatment in a single product
- ✓ Blend of precipitating and polymeric sludge conditioning agents
- ✓ Excellent deposit control
- ✓ Controls oxygen corrosion in feedwater system and boiler
- ✓ Amine provides effective system protection



23 kg  
77100401

# Deposit control - Online-Cleaning

## Alkaline

### calgonit WTB 38



calgonit WTB 38 is a mixture of phosphonates and a high efficiency dispersant agent for hardness salts and silicates. calgonit WTB 38 is able to modify the crystalline structures of precipitates in amorphous particles unable to adhere on the metallic surfaces. Furthermore calgonit WTB 38 has a high efficiency to transfer metallic ions (iron, copper) avoiding the precipitation in the feed water pipelines or on the surfaces of the boiler and it facilitates the discharge through the bleed off. calgonit WTB 38 could be used in boiler working till 60 bars. Ingredients in calgonit WTB 38 are listed in the FDA list for boiler water additives.

 24 kg  
77093401

- ✓ Inhibits carbonate, silica and metallic deposits
- ✓ Maintains surfaces cleaned and optimizes heat exchange
- ✓ Reduces operating costs
- ✓ Online Cleaning

# Condensate treatment

Alkaline

## calgonit WTB 64

21 kg  
77094401



calgonit WTB 64 contains high strength volatile neutralising amines with distribution characteristics designed to provide protection of metal surfaces at points of initial condensation as well as in extended areas of the condensate system. Neutralising amines fulfill two functions when applied as condensate corrosion inhibitors. They neutralise the acidity imparted to the condensate by carbon dioxide and increase the pH of the condensate to the range, where iron pick-up is reduced to the minimum.

- ✓ Reduce condensate corrosion
- ✓ Reduce maintenance costs
- ✓ Improve boiler system reliability
- ✓ Reduce the levels of iron and copper in boiler feedwater



# pH-control / -Regulation

## Alkaline

### calgonit WTB 23



calgonit WTB 23 is a strongly alkaline product for pH control in boiler systems. The formulation allows regulating of alkalinity in condensate, feed water and boiler water.

- ✓ Increases pH-value
- ✓ Provides scale and corrosion protection
- ✓ Thermo stable



28 kg  
78358420

# Open cooling systems



# Multifunctional products

## Alkaline

### calgonit WTC 11



calgonit WTC 11 is a specific formulation with molybdates to provide corrosion and scale protection in systems using soft or medium hard water. The formulation used for calgonit WTC 11 is balanced to allow a fast film formation to protect the system becoming corroded or facing hardness scale. It is very stable against oxidizing biocides like hypochlorite and hypobromite.

 25 kg  
77091401

- ✓ Provides excellent corrosion and scale protection
- ✓ Contains yellow metal inhibitor
- ✓ Keeps heat exchange equipment efficient
- ✓ Liquid, easy to use and analyze

## Acid

### calgonit WTC 13

23 kg  
77092401



calgonit WTC 13 is an all organic formulation to provide corrosion and scale protection in systems with medium to high water hardness. The formulation used for calgonit WTC 13 is balanced to allow a fast film formation to protect the system becoming corroded. Formation of hardness scale is reliably prevented. calgonit WTC 13 is environmentally friendly; it has only a very low contribution to BOD and COD. It can be used together with oxidizing biocides like hypochlorite and hypobromite.



- ✓ Provides excellent corrosion and scale protection
- ✓ Contains yellow metal inhibitor
- ✓ Keeps heat exchange equipment efficient
- ✓ Liquid, easy to use and analyze



Control and dosing technology for open cooling systems.

Plant example. Graphic may be different from the original.

# Oxidizing biocides

## Chlorine

### calgonit CD-OX\*



calgonit CD-OX is a chlorine dioxide solution made of two components (calgonit CD-OX A and calgonit CD-OX B). calgonit CD-OX can be used for fighting bacteria (especially legionella), algae, fungi and viruses in drinking water and in systems with water for domestic use. calgonit CD-OX does not cause undesirable reaction products - neither with water nor with its ingredients. Concentrated calgonit CD-OX is generally added into the cycle via a closed system. A closed system is defined as a system into which fluid from a closed storage container is transported into the medium that is to be treated, without getting into contact with the atmosphere. Suitable dosing points are those characterised by thorough mixing.

- ✓ Easy to use
- ✓ Does not cause undesirable reaction products - neither with water nor with its ingredients

	CD-OX A 24,15 kg 27047400
	193,20 kg 27047100
	CD-OX B 0,85 kg Tin 27048700
	6,8 kg Bucket 27048400

**This product is also available under the product name calgonit CD-TAB as a two-component product in tab form.**

### calgonit CD-LC\*

25 kg  
27044400



200 kg  
27044110



calgonit CD-LC is a fluid, ready-to-use broadband biocide. It possesses strong oxidation potential and is characterised by excellent disinfection behaviour. calgonit CD-LC allows direct metering from the package by means of a dosing pump or also manually. Predilution is thus not necessary.

- ✓ Removal of odorous and faecal substances
- ✓ COD/TOC/BOD reduction
- ✓ Increase of the redox potential
- ✓ Highly effective already at small amounts



**Chlorine dioxide systems available from us!**

\*Use biocides safely. Always read the label and product information before use.

# Non-oxidizing biocides & Biodispersgator

## Desinfektion

### calgonit DS 643\*

25 kg  
75312402   
200 kg  
75312101 

calgonit DS 643 is a biocide based on isothiazolinones and is used to effectively fight and prevent microbiological growth in strained cooling water and service water systems. calgonit DS 643 is a highly efficient, fluid microbiocide based on organic heterocyclic compounds. It controls germs, slime-forming organisms, algae and fungi, as well as any type of aerobic and anaerobic bacteria. The biostatic effect of this product prevents the development of bacteria and slime and controls the biological growth in the system.

- ✓ Fast acting
- ✓ Broad spectrum kill



### calgonit DS 654\*



FDA

calgonit DS 654 is a highly effective microbiocide based on bromine derivate. calgonit DS 654 controls microbiological growth very effectively over a wide spectrum of bacteria and fungi.

- ✓ Controls a wide spectrum of bacteria, algae and other microorganisms
- ✓ Very effective at low concentrations
- ✓ Fast acting

 25 kg  
77042400

## Acid

### calgonit AD 852

22 kg  
77214400 

calgonit AD 852 is recommended for use in cooling water systems to facilitate the removal of microbiological slimes and to enhance the microbicidal activity of biocides. The biocide can penetrate biofilms much better when calgonit AD 852 is present improving the removal of biofouling at the same time. Particularly effective in enhancing the performance of oxidizing biocides such as chlorine, hypochlorite and chlorine/bromine releasing agents. calgonit AD 852 can also be used in oil contaminated water systems to prevent oil separation at inner surfaces and keep the system clean.

- ✓ Provides clean surfaces
- ✓ Improves heat transport
- ✓ Enhances corrosion inhibitors
- ✓ Improves biocide performance



\*Use biocides safely. Always read the label and product information before use.

# Closed systems



### calgonit WTC 05

25 kg  
77099401



calgonit WTC 05 is a corrosion inhibitor and dispersant for molybdate free treatment in closed systems (cold and warm water). The product is applicable up to 100°C. The presence of very efficient anodic and cathodic organic inhibitors and dispersant polymers guarantee an excellent protection against corrosion of ferrous metals, copper and their alloys. calgonit WTC 05 keeps heat exchange surfaces clean and improves heat exchange by avoiding formation of deposits. calgonit WTC 05 is compatible with non metallic components encountered in the system.

- ✓ Effective corrosion inhibition
- ✓ Improves heat exchange
- ✓ Minimizes scale formation
- ✓ For closed systems
- ✓ For any water hardness



### calgonit WTC 15



calgonit WTC 15 inhibits corrosion in recirculated closed water systems working with cold and warm water. The presence of very efficient anodic inorganic inhibitor, organic inhibitors and dispersant polymers guarantees an excellent corrosion protection of ferrous metals, copper or its alloys and aluminum and assures a very efficient cleaning action of heat exchange surfaces avoiding deposit formations. calgonit WTC 15 is compatible with non metallic components of the system.

- ✓ Protects from corrosion in multi-metal systems
- ✓ Keeps heat transfer surfaces clean
- ✓ For any water hardness
- ✓ Compatible with antifreeze, e.g. ethylene glycol

22 kg  
77156400



# Drinking & ice water treatment

## Alkaline

### calgonit WTC 08



calgonit WTC 08 prevents corrosion and eliminates iron oxides in drinking water. calgonit WTC 08 is especially formulated to form a passivation film made of calcium-iron-silicatehexametaphosphate which protects metallic surfaces from water corrosion. calgonit WTC 08 is also suitable for stabilizing of water hardness.

- ✓ Protection against corrosion
- ✓ Suitable for potable water
- ✓ Low treatment costs
- ✓ Easy to use

 23 kg  
77090401

 230 kg  
77090100



### calgonit SP 907

calgonit SP 907 is a neutral deposit remover of rust, lime and other mixed deposits in water systems. Due to its neutral pH calgonit SP 907 guarantees a very soft and material compatible removal of deposits. calgonit SP 907 prevents due to its excellent dispersing property new deposits.

23 kg  
77226400 

- ✓ Effective iron oxides remover
- ✓ Neutral cleaning
- ✓ Easy to use
- ✓ Excellent material protection



### calgonit WTB 65

calgonit WTB 65 is a highly effective scale and deposit remover based on acid, inhibitor, wetting agent and an indicator. The inhibitor in calgonit WTB 65 prevents attack on steel, cast iron and copper alloys during cleaning operations. calgonit WTB 65 is especially recommended for stainless steel equipment where use of hydrochloric acid may cause stress corrosion cracking. The unique blend permits intimate contacts providing rapid and efficient deposit removal.



 26 kg  
77095401

- ✓ Rapid scale remover
- ✓ Built-in colour indicator
- ✓ No noxious fumes and odours
- ✓ Easy handling

# Pasteurisation- & Sterilisation treatment



# Pasteurisation- & Sterilisation treatment

## Alkaline

### calgonit SP 910

25 kg  
77177400   
250 kg  
77177100 

calgonit SP 910 is an optimized mixture of organic corrosion inhibitors, phosphates, dispersants and wetting agents. The product is especially developed for food sterilization equipment. calgonit SP 910 prevents effectively corrosion and deposits in all water-bearing areas of sterilization equipment and improves simultaneously the appearance of the finished product. calgonit SP 910 prevents reliably deposits caused by higher water hardness.

- ✓ Protects against corrosion, deposits and stains
- ✓ Especially suitable for hard water
- ✓ Zinc and Molybdate-free
- ✓ Ensures clean, glossy cans and glasses



## Neutral

### calgonit SP 905



calgonit SP 905 is a product based on molybdate which is especially developed for food sterilization equipment. The product prevents efficiently lime scale, corrosion and deposits on packaging and inside the autoclave. The good wetting ability of calgonit SP 905 results in evenly drying and thus ensures clean and shiny packaging.

- ✓ Prevents corrosion, deposits and staining
- ✓ Ensures shiny packaging
- ✓ Especially suitable for soft water
- ✓ Chlorine stable

 25 kg  
77175400

### calgonit SP 900

22 kg  
75315401 

calgonit SP 900 is specifically developed for use in food sterilization equipment. The product is mixture of organic and inorganic corrosion inhibitors, dispersants and wetting agents. calgonit SP 900 provides superior corrosion inhibition and deposit control in water bearing areas of sterilization equipment. Contained low foaming surfactants provide a good cleaning effect and improve simultaneously the appearance of the surface of the finished product due to an optimized spreading of the water film. calgonit SP 900 is particularly suitable for use with fluctuating water qualities depending on condensation of steam.

- ✓ Especially with fluctuating water qualities
- ✓ Contains corrosion inhibitors
- ✓ Low foaming
- ✓ Excellent hardness stabilizing and soil dispersing power



# Pasteurisation- & Sterilisation treatment

## Alkaline

### calgonit SP 906



calgonit SP 906 is a blend of low foaming surfactants and dispersants designed for removal of oil, grease and food residues from surfaces. calgonit SP 906 is especially suitable for cleaning of containers before sterilization. The optimum operating temperature is 40 - 60°C.

 21 kg  
77178400

- ✓ Low foaming
- ✓ Removes organic deposits
- ✓ Effective wetting system

## Acid

### calgonit SP 912

24 kg  
72632403



calgonit SP 912 is a liquid product specifically developed for pasteurizer water treatment in the food processing industry. calgonit SP 912 provides superior scale inhibition, prevents deposition and is effective in hard water. In pasteurizers calgonit SP 912 prevents hardness deposits and protects cans from blackening. The product is stable against oxidizing agents and therefore especially suitable when used in combination with chlorine dioxide and peracetic based disinfectants.

- ✓ Prevents scale, deposition and staining
- ✓ Corrosion protection for aluminium cans
- ✓ Stable to oxidants
- ✓ Suitable for PET
- ✓ Also suitable for high water hardness



# R.O.-Systems



# Cleaning

## Alkaline

### calgonit MC 942



calgonit MC 942 is a buffered mildly alkaline cleaning agent for reverse osmosis, micro - and ultra filtration equipment. The product contains organic sequestrants. calgonit MC 942 is a highly concentrated product and is recommended to use in combination with calgonit MC 970 to maximize the cleaning performance.

- ✓ Concentrated product
- ✓ Phosphate free
- ✓ Economical in use

 30 kg  
75569401  
 260 kg  
75569101

## Acid

### calgonit MC 954

25 kg  
77096401



calgonit MC 954 is a buffered acidic cleaner for removal of carbonate and iron oxide scale. Despite the mildly acidic pH of the cleaning solution carbonates and iron oxides are effectively dissolved. calgonit MC 954 will also further interfere in any silica, sulphate and biofilm layer which will enhance the performance of any subsequent alkaline cleaning.

- ✓ Dissolves inorganic deposits
- ✓ Phosphorus-free
- ✓ Low foaming



# Membrane protection agent

Neutral

## calgonit MC 956

calgonit MC 956 is a broad spectrum antiscalant designed to reduce significantly scale formation and fouling in membrane systems. calgonit MC 956 inhibits effectively formation of calcium sulfate, calcium phosphate, calcium fluoride, barium sulfate, strontium sulfate and silica. calgonit MC 956 can also be used as a cleaner for sodium cation resins that have become fouled with iron oxides. calgonit MC 956 should be added to the salt used for regeneration to ensure that the off-line membrane cleaning proceeds safely. calgonit MC 956 is suitable for use in a range of feedwater sources, including brackish water, waste- and seawater. The product must be continuously applied to provide full system protection.

27 kg  
77097401



- ✓ Effectively controls scale
- ✓ Compatible with most leading reverse osmosis (RO) and nanofiltration (NF) membranes
- ✓ Based on phosphonates
- ✓ Low operating costs
- ✓ Resin treatment



## calgonit MC 957

calgonit MC 957 is a formulation designed for preservation of reverse osmosis membranes, which are out of work for longer periods. calgonit MC 957 is also suitable to remove free or bound chlorine from the feed water for reverse osmosis and nanofiltration equipment.

- ✓ Avoids membrane fouling
- ✓ Compatible with nearly all membranes
- ✓ Protects metal against corrosion
- ✓ Removes chlorine



25 kg  
77173400



## calgonit MC 958

calgonit MC 958 is a general purpose Phosphorous-free antiscalant that protects against scale formation in reverse osmosis systems. calgonit MC 958 inhibits formation of all carbonate and phosphate scales, also sulfate scales at extreme super saturations. The product also exhibits control of reactive silica at low to moderate levels. calgonit MC 958 is able to disperse colloidal particles such as silt, clay and colloidal silica, effectively stabilizes metal ions and disperses metal hydroxides. calgonit MC 958 is suitable for use in a range of feedwater sources, including brackish-, waste- and seawater. The product must be continuously applied to provide full system protection.

26 kg  
77098401



- ✓ Effective antiscalant
- ✓ Compatible with most leading reverse osmosis (RO) and nanofiltration (NF) membranes
- ✓ Based on high-performance polymer
- ✓ Phosphorus-free
- ✓ Low operating costs





## For optimal hygiene management

Our goal is to ensure a comprehensive service range to make the applications in your organisation technically safe, economically effective and ecologically friendly at all times.

We further support and advise our customers with a company-specific product selection according to their needs as well as optimal product application to ensure effective cleaning and disinfection processes.

### Calvatis

- ✓ helps you optimise your cleaning and disinfection processes
- ✓ helps you find the causes of faults
- ✓ helps you implement effective measures to deal with events

### Calvatis...

...analyses the initial situation on site (current state protocol; report) and plans the use of the products with you

- ✓ order suggestions
- ✓ work instructions
- ✓ storage concepts

...documents the planned use (cleaning and disinfection plan)

### Calvatis...

...helps you evaluate the results of monitoring

- ✓ through statistical evaluation
- ✓ and shows the need for action

...supports you in the annual verification of the cleaning and disinfection procedures

...checks and reports the plan and target specifications for cleaning and disinfection (amounts; costs; processes)

...trains your staff

- ✓ to handle cleaning and disinfection agents
- ✓ for personal hygiene
- ✓ in dealing with illnesses

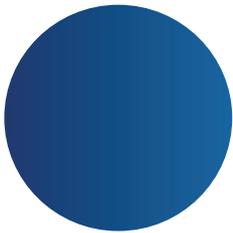
...regularly monitors adherence to specifications by determining the concentrations used and the success achieved

...documents these monitoring results

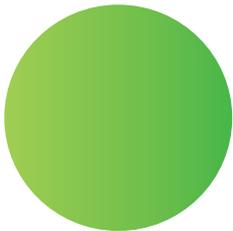
- ✓ service report per visit

# Colour concept

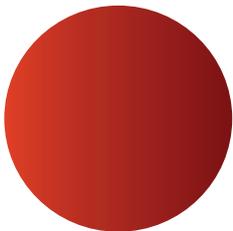
We have developed a colour concept to improve safety while working with Calvatis products. This makes it possible to determine the type of product from the colour of the canister and the labels. It makes handling our products much easier and also promotes increased safety during processing.



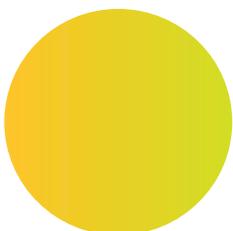
**Alkaline**



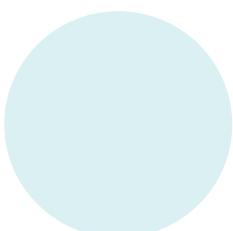
**Chlorine**



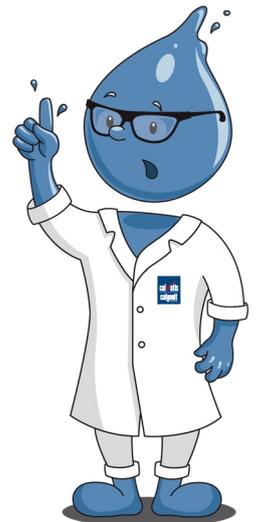
**Acid**



**Disinfection**



**Neutral**



Use of the products requires adherence to the precautions applicable to handling chemicals! Notes on risks and safety can be found in the relevant safety data sheets!

Before a cleaning and disinfection agent is used, its compatibility with the material concerned must be examined!



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