

COOLING TOWERS



BIOCIDES FOR COOLING TOWER WATER TREATMENT CHEMICAL

| | Broadband biocide | Efficacy-tested according to DIN EN 13623 (bactericidal effect against legionella) | Chemical mode of action | Properties |
|-----------------|-------------------------|--|-------------------------|--|
| Wetrocheck 3603 | $\overline{\mathbf{Y}}$ | lacksquare | Non-oxidizing | Reliable broad-spectrum biocide for maintaining the hygienically safe operation of open cooling circuits |
| Wetrocheck 3675 | \square | $\mathbf{\overline{\checkmark}}$ | oxidizing | Environmentally compatible and neutral reacting due to decomposition into water and oxygen |
| Wetrocheck 3660 | $\overline{\mathbf{Y}}$ | $\mathbf{\underline{\checkmark}}$ | oxidizing | Radical chlorine compound for efficient control of microorganisms and biofilms |
| Wetrocheck 3640 | \square | lacksquare | oxidizing | In-situ production of chlorine dioxide, for the minimization of AOX compounds in cooling water |

INHIBITORS

| | Hardness stabilization | Corrosion inhibition | Dispersion of sludge and iron oxides | Cooling capacity of the unit | Mixed installations | Properties |
|---------|---------------------------|-------------------------|--------------------------------------|------------------------------------|-------------------------|--|
| KW 2630 | $\overline{\checkmark}$ | | | > 2 MW | | Does not interfere with flocculation |
| KW 2830 | $\overline{\checkmark}$ | | $\overline{\checkmark}$ | < 2 MW | | Adapted to the requirements of small systems |
| KW 2890 | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{Y}}$ | > 2 MW | | Universally applicable |
| KW 2923 | $\overline{\checkmark}$ | | $\overline{\mathbf{Y}}$ | < 2 MW | $\overline{\mathbf{Y}}$ | Adapted to the requirements of small systems |
| KW 2920 | $\overline{\checkmark}$ | $\overline{\checkmark}$ | $\overline{\mathbf{Y}}$ | > 2 MW | $\overline{\checkmark}$ | Universally applicable for non-ferrous metal installations |
| KW 2930 | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{Y}}$ | > 10 MW | $\overline{\checkmark}$ | Reduction of hardness deposits; controlled m-value reduction |
| KW 2924 | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{Y}}$ | > 2 MW | | No input of phosphate into the cooling water |
| KW 2970 | $\overline{\checkmark}$ | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | > 2 MW | | Protection against sulphate deposits, biodegradable |



CLOSED SYSTEMS



INHIBITORS

| | Hardness- stabilization | Corrosion inhibition | Dispersion of sludge and iron oxides | Mixed installations iron and copper | Properties |
|---------------|----------------------------|-------------------------|--------------------------------------|-------------------------------------|--|
| Heizan K 500 | $\overline{\checkmark}$ | $\overline{\checkmark}$ | $\mathbf{\nabla}$ | lacksquare | Additional protection against hardness deposits and incrustations |
| Heizan K 501 | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | \mathbf{V} | lacksquare | Highly effective with softened or demineralised water |
| Heizan K 510 | \mathbf{V} | $\overline{\mathbf{V}}$ | \blacksquare | lacksquare | Suitable for aluminium materials |
| Heizan K 520 | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{Y}}$ | lacksquare | Inhibited refill water for direct application |
| Heizan K 600 | V | V | \mathbf{Y} | lacksquare | Corrosion inhibitor for oxygen-deficient circulating water |
| Heizan KI 290 | $\overline{\mathbf{V}}$ | $\overline{\checkmark}$ | $\overline{\mathbf{Y}}$ | lacksquare | Pure non-ferrous metal inhibitor, reinforced corrosion protection for copper |



OXYGEN BINDING

| | Oxygen binding | Steam volatile | Alkalization | Hydrazine-free | Properties |
|---------------|-------------------------|-------------------------|-------------------------|----------------------------------|--|
| Oxycheck 6370 | $\overline{\checkmark}$ | $\overline{\mathbf{Y}}$ | $\overline{\mathbf{V}}$ | $\mathbf{\overline{\checkmark}}$ | Corrosion protection of the steam line |
| Oxycheck 6385 | $\overline{\checkmark}$ | $\overline{\mathbf{Y}}$ | $\overline{\mathbf{V}}$ | $\mathbf{\overline{\checkmark}}$ | Neutralization of free carbonic acid in the line |
| Oxycheck 6740 | $\overline{\mathbf{Y}}$ | | | $\overline{\checkmark}$ | Suitable for food processing plants |

HARDNESS STABILIZATION

| | Hardness stabilization | Corrosion inhibition | Prevents scale formation | Disperses deposits | Alkalization | Properties |
|-------------|---------------------------|-------------------------|--------------------------------|-------------------------|-------------------------|---|
| Heizan 5704 | \mathbf{V} | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | Phosphate-free boiler operation |
| Heizan 5750 | lacksquare | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | $\overline{\checkmark}$ | Phosphate product for feed water < 30 µS/cm |
| Heizan 5760 | $\mathbf{\nabla}$ | $\overline{\checkmark}$ | $\overline{\checkmark}$ | $\overline{\mathbf{V}}$ | $\overline{\checkmark}$ | Phosphate product for feed water ≥ 30 µS/cm |
| Heizan 5765 | $\overline{\checkmark}$ | $\overline{\checkmark}$ | $\overline{\mathbf{Y}}$ | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | Very high alkalization of the boiler water |

ALKALIZATION

| | Steam volatile | Alkalization | Properties |
|-------------|----------------------------------|-------------------------|---|
| Heizan 7645 | lacksquare | \square | Protects the steam path from corrosion; not suitable for copper installations |
| Heizan 7695 | $\mathbf{\overline{\checkmark}}$ | $\overline{\mathbf{Y}}$ | Neutralization of free carbonic acid |

COMBINED PRODUCTS AS SEQUESTERING AGENT

| | Oxygen binding | Steam volatile | Alkalization | Hardness stabilization | Corrosion inhibition | Properties |
|-----------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|
| Heizan FC | $\overline{\mathbf{Y}}$ | | $\overline{\mathbf{V}}$ | $\overline{\mathbf{Y}}$ | $\overline{\checkmark}$ | Very good sequestering properties |
| Heizan TC | lacksquare | $\overline{\mathbf{V}}$ | \square | $\overline{\mathbf{V}}$ | lacksquare | Suitable for technical applications; additional protection of the steam path |







ANTISCALANT

MEMBRANE CLEANER

| | Deposit prevention | Properties |
|---------------|-------------------------|--|
| Dispergo 8900 | lacksquare | UO systems < 1 m³/h permeate capacity |
| Dispergo 8910 | $\overline{\checkmark}$ | Universally applicable |
| Dispergo 8960 | \square | Very high stabilization of barium sulphate |
| Dispergo 8980 | $\overline{\checkmark}$ | Very easily biodegradable |

| | Chemical mode of action | Removes fouling | Removes scaling | Properties |
|-----------------|-------------------------|--------------------|-------------------------|---|
| WeClean MC 4000 | Alkaline | \mathbf{V} | | High dissolving power for biological coatings |
| WeClean MC 4010 | Acidic | | V | Removes mineral deposits |
| WeClean MC 4012 | Acidic | Y | $\overline{\mathbf{V}}$ | Additional biodispergator |



DRINKING WATER INSTALLATIONS

| | Hardness stabilization | Corrosion inhibition | | Prevention of brown colouring | Properties |
|-------------|---------------------------|----------------------|-------------------------|-------------------------------|---|
| Wephos 5901 | lacksquare | | | lacksquare | Reduction of existing incrustations |
| Wephos 5901 | $\mathbf{\nabla}$ | | $\overline{\checkmark}$ | \mathbf{V} | Reduction of existing incrustations |
| Wephos 5901 | \square | lacksquare | | $\overline{\checkmark}$ | Additional protection of copper installations |
| Wephos 5901 | lacksquare | lacksquare | $\overline{\checkmark}$ | \checkmark | Additional protection of copper installations |

AUTOCLAVES

| | Hardness stabilization | Corrosion inhibition | Food processing companies | Heavy metal-free | Properties |
|-----------------|------------------------|----------------------|---------------------------|-------------------------|-------------------------------------|
| Stericheck 4550 | \checkmark | $\mathbf{\nabla}$ | lacktriangledown | $\overline{\checkmark}$ | Drip-off aid on the outer packaging |

COOLANT

| | Ready-to-use solution | Food processing plants | Monoethylene glycol | Monopropylene glycol | | Nitrite-, phosphate- and amine-free |
|------------|-------------------------|-------------------------|----------------------------------|-------------------------|-------------------------|-------------------------------------|
| Wesol C | | | $\overline{\mathbf{Y}}$ | | \checkmark | $\overline{\mathbf{V}}$ |
| Wesol 35 | $\overline{\checkmark}$ | | $\mathbf{\overline{\checkmark}}$ | | \checkmark | $\overline{\checkmark}$ |
| Wesol FC | | $\overline{\mathbf{Y}}$ | | $\mathbf{\nabla}$ | \mathbf{V} | $\overline{\checkmark}$ |
| Wesol F 35 | $\overline{\mathbf{V}}$ | $\overline{\mathbf{V}}$ | | \square | $\overline{\checkmark}$ | lacksquare |



PROCESS WATER TREATMENT



FLOCCULANTS

| | Precipitation-medium | Flocculants | Anionic | Cationic | Loading density | Properties |
|---------------|----------------------|-------------------------|-------------------------|-------------------------|--------------------|---|
| WeFloc 1200 | lacksquare | | | N/A | | Coagulant to form flakes |
| WeFloc SF1 BD | lacksquare | | | N/A | | Liquid heavy metal precipitant |
| WeFloc 4000 | | $\overline{\checkmark}$ | | | high | Emulsion for flocculation of solids |
| WeFloc 4001 | | $\overline{\checkmark}$ | | $\overline{\mathbf{V}}$ | medium | Emulsion for flocculation of solids |
| WeFloc 4250 | | $\overline{\mathbf{V}}$ | $\overline{\checkmark}$ | | low | Emulsion for flocculation of solids |
| WeFloc 4251 | | $\overline{\mathbf{V}}$ | V | | medium | Emulsion for flocculation of solids |
| WeFloc 4754 | | ~ | V | | medium | Powder polymer for flocculation of solids |

DEFOAMERS

| | Base | Silicone-free |
|----------------|--|---------------|
| WeClean AF 410 | Dimethylpolysiloxane oil | |
| WeClean AF 420 | Fatty acid polyglycol ether | lacksquare |
| WeClean AF 430 | Combination of fat derivatives and higher alcohols | lacksquare |
| WeClean AF 470 | Combination of non-ionic components | lacksquare |



PROCESS WATER TREATMENT



TECHNICAL DETERGENTS

| | Industrial cleaner | Degradation of lime deposits | Rust remover | Colour indicator | Applicable for Fe and Cu | Applicable for Zn | Properties |
|--------------|--------------------|------------------------------|-------------------------|-------------------------|--------------------------|-------------------|--|
| WeClean 8001 | | lacksquare | $\overline{\mathbf{Y}}$ | | $\overline{\mathbf{V}}$ | | Small device cleaning |
| WeClean 8002 | | lacksquare | | $\overline{\mathbf{A}}$ | $\overline{\mathbf{V}}$ | | Suitable for cleaning stainless steel materials |
| WeClean 8011 | lacksquare | lacksquare | V | | lacksquare | | Not suitable for stainless steel |
| WeClean 8030 | | lacksquare | | | $\overline{\mathbf{V}}$ | Y | Mild cleaner for hardness deposits |
| WeClean 8040 | | lacksquare | | | | | Complexes iron compounds |
| WeClean 8060 | | | | | | | For UV systems; not suitable for aluminium |
| WeClean 8065 | | | | | $\overline{\mathbf{V}}$ | | Forms passive layers on ferrous materials |
| WeClean 8110 | | | | | | | Reduces trivalent iron |
| WeClean 8300 | | lacksquare | | | | | In powder form |
| WeClean 8600 | | | | | | | Surfactant-containing auxiliary and cleaning agent |

NEUTRALIZING AGENT / PASSIVATION

| | Deposition inhibitor | Colour indicator | Neutralization brine | Passivation solution |
|-------------------|-------------------------|------------------|----------------------|-------------------------|
| WeClean N BD | | lacksquare | lacksquare | |
| WeClean N Plus BD | lacksquare | | lacksquare | |
| WeClean NC | | | lacksquare | |
| WeClean P BD | $\overline{\checkmark}$ | | | $\overline{\checkmark}$ |