Senda CHEM

# CHEMISTRY FOR A CLEANER FUTURE

## TRUSTED CHEMISTRY & TAILORED SOLUTIONS

28 East Ave 2, Bukit Batok, Singapore

## Product Catalog

- Paint Detackifier-Wet Spray Solutions
- Filter Box-Dry Spray Solutions
- Heavy Metal Remover
- Lubricants & Grease
- Industry Defoamer
- Corrosion & Scale Inhibitor

Contact Us

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**Best-in-Class**

# Paint Detackifier

# Wet Spray Solutions

## INSPIRED BY CATIONIC TECHNOLOGY

## Experience the Ultimate Spray Booth Efficiency

- Delivers **3-5** times higher efficiency than other solutions.
- High sludge solids, reduces **40-50%** waste quantity and disposal costs.
- Long life time for over **12** months of spray booth re-circulation water.

NO FOAM ISSUE

GREEN PRODUCTS - NO FORMALDEHYDE


### Our Clients

TOYOTA VOLVO FAW PEN YAMAHA NISSAN Ford

### Technical Consultation

Our experts provide customized solutions for your spray booth, helping you improve efficiency and reduce downtime.

### After-Sales Support

Comprehensive service and monitoring to make sure your system maintains long-term stability and compliance.

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**Honeycomb Structure**

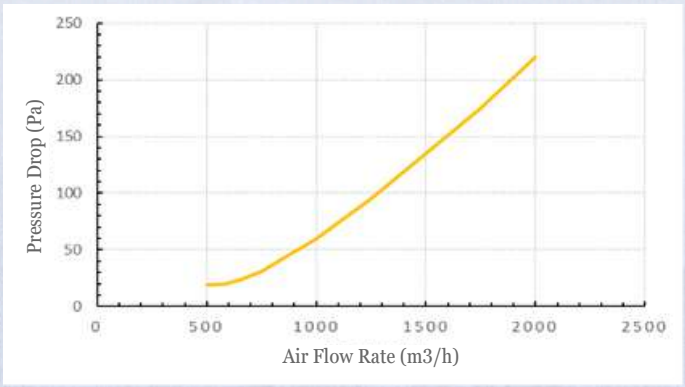
# Filter Box

# Dry Spray Solutions

## ENGINEERED BY VENTURI-BASED TECHNOLOGY

## Heavy-Duty with Optimized Paint Capture Capacity

- High separation efficiency of **98%** ensured by a coarse-grade final filter layer.
- Large honeycomb openings on the air inlet side prevent clogging and provide excellent paint holding capacity (15kg).
- Low initial pressure drop achieved through loose honeycomb media and G4 filter mat design.




Pressure Drop (Pa)

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# Heavy Metal Remover

FREE CONSULTATION & TRIAL

WE TAKE CARE OF

HIGHEST WATER STANDARDS

## Beyond Conventional Limits

- **Break metal chelates, enabling treatment beyond alkaline precipitation limits.**
- **Achieve ppb-level treatment.**

- High Efficiency - Rapid and Selective Binding.
- Fast Reaction Time within Minutes.
- Non-Toxic and Safe Byproducts - No 2nd pollution.
- Cost Effective.

### Three Recommended Solutions:

- CHR-1500: more cost-effective option for general purpose.
- CHR-3000: low-cost, suitable for non-sensitive applications.
- CHR-5500: the best overall performance, especially for strict purposes.

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# High-Performance for Every Industry

- ✅ Extended Equipment Life
- ✅ Energy Efficiency
- ✅ Superior Protection
- ✅ Tailored Solutions

WHY PAY MORE!

**Get leading-brand performance at smarter value**


Robot


Automotive


Ultra Lube


Compressor


Open Gear


Wind Power


Electrical Power Tool

## INTERNATIONAL CERTIFICATIONS

ISO · DIN · ASTM · SAE INTERNATIONAL · API American Petroleum Institute · FLENDER A Siemens Company

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# High-Performance for Every Industry

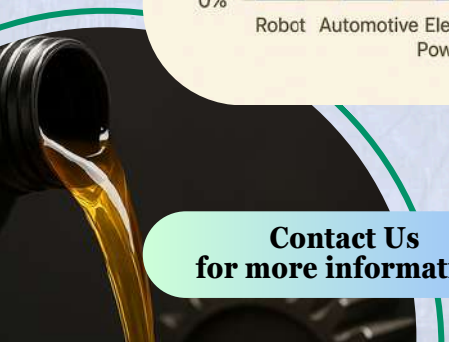
## TYPICAL KEY PERFORMANCE DATA

| Property | Method | Typical Values |
|---|---|---|
| Superior Wear Protection | ASTM D4172 | ≤ 0.45 mm |
| High Thermal Stability | ASTM D2265 | ≥ 250 °C |
| Outstanding Oxidation Resistance | ASTM D943 | ≥ 5000 hr |
| Exceptional Water Resistance | ASTM D1264 | < 5 %wt |
| Enhanced Load-Carrying Capacity | ASTM D2783 | ≥ 250 Kgf |
| Low Volatility Formulation | ASTM D972 | ≤ 1% (@100°C, 22 hr) |
| Clean Operation | ASTM D6184 | ≤ 2% |

- The above data is typical and not binding. Full specifications will be provided upon request.
- Customized formulations are available upon request.


- Extended equipment life
- Reduced downtime and maintenance
- Superior high-temperature stability
- Lower lubricants consumption
- Cost savings up to 30%

FREE TRIAL GUARNTEED



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# Industrial Defoamer

**EFFICIENT FOAM CONTROL FOR RELIABLE INDUSTRIAL PROCESSES**

**LOW DOSAGE & Tailor-Made**

✦ Tailored to your needs, we provide high-performance defoamers with features like:

👉 fast-acting / long-lasting / fast and durable / high-temperature resistant / acid-alkali resistant / water-based / oil-based / food-grade.


📈 Rapid & Lasting – quick defoaming with long-term antifoam stability.

✔ Wide Industrial Compatibility – effective under high temperature, wide pH, and strong shear.

💰 Cost Efficient – lower dosage with significant process savings.

🌿 Eco-Compliant & Customizable – environmentally safe, tailored formulations for your needs.

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# Application Study

Waste Water Treatment Plant
30,000 m³/day

## Our Solution

Applies a silicone-based defoamer **special designed for biological wastewater systems**.

- Biocompatible – safe for microbial processes
- Stable under high shear and turbulence

Application Summary:

- Dosage: 20 ppm
- Method: Continuous online dosing
- Injection points: Aeration tank inlet and midpoint

## Improvements

- Improved dissolved oxygen and microbial efficiency
- Reduced sludge carryover and maintenance frequency
- More stable effluent quality and overall system performance

| Metric | Before | After |
|---|---|---|
| Foam Thickness | 10-15cm | < 2cm |
| Effluent SS | 65mg/L | 28mg/L |
| SVI | 180–200 mL/g | 120–135 mL/g |
| Odor | Frequent | None (2 mths) |

## Case 1

**Wastewater Treatment Plant**

**Location**: Chemical industrial park

**Issue**: Severe foaming in aeration tanks & clarifiers

**Causes**: High surfactant and organic load

**Consequences**:

- Poor oxygen transfer
- Sludge washout/loss
- Odor complaints

**Tried Solutions: (Ineffective)**

- Mechanical method
- Water sprays
- Generic defoamers

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# Application Study

## Cell-Based Biopharmaceutical Fermentation

### Case 2

#### Fermentation Process

**Issue:** Foam accumulation reached critical levels during peak oxygen demand

**Causes:** High aeration/agitation, protein-rich media, surfactant buildup

**Consequences:**

- Sensor fouling (pH/DO probes)
- Contamination via exhaust filters
- Foam overflow and volume loss
- Cell shear damage
- Batch-to-batch variability

**Tried Solutions**:

Manual antifoam dosing, reduced airflow, mechanical foam breakers — all inconsistent.

## Our Solution

A **non-ionic polyether-modified siloxane antifoam** was implemented.

- High surface activity
- Chemical inertness
- Low cytotoxicity (biocompatible with CHO cells)
- Delivered via automated feedback system
- Integrated with capacitive foam sensor
- Enabled real-time foam suppression without manual intervention

## Improvements

- Foam suppression efficiency improved by >95%
- No exhaust filter wetting or contamination events across 12 runs
- Stable pH and DO readings, with zero sensor replacement required
- No negative impact on cell viability or protein titer
- Reduced downtime and improved reproducibility across batches

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# Corrosion & Scale Inhibitor

Up To 50% Off

## APPLICATIONS

- Boiler
- Membrane
- Oil Field
- Power Plant
- Steel Mill
- Copper Surface
- High Hardness
- Phosphorus Free
- High Corrosion & Low Hardness

## OUR ADVANTAGES

- **Stabilizes where others fail** — consistent performance in ultra-high TDS, pH drift, and high-temperature cycles.
- **Targets microcrystal nucleation** — stops scale before it starts, not just disperses what's formed.
- **Engineered for mixed-metal systems** — protects carbon steel, copper, stainless simultaneously without galvanic risk.
- **Reduces cleanings by up to 50%** — proven in systems with chronic scaling and fouling issues.

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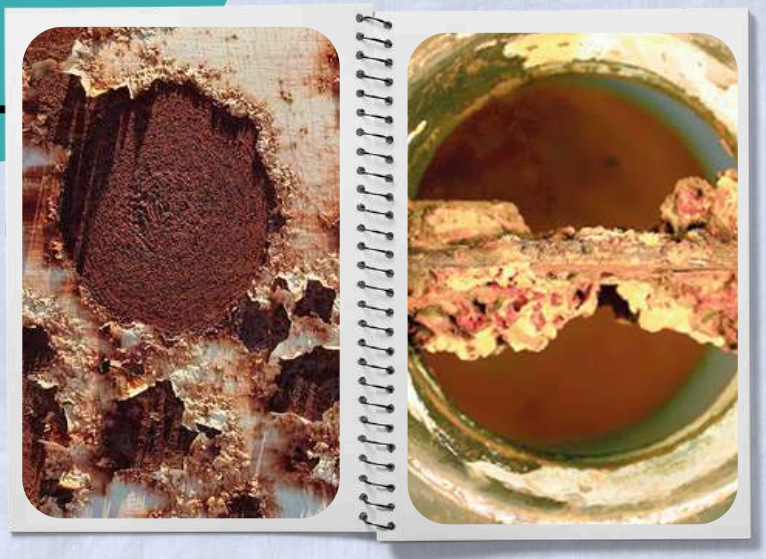
# Application Study



**A Closed-Loop Circulating Cooling Water System of Steel Manufacturing**

## Case 1

**Steel Plant Circulation Water System**

**Location**: Steel Plant Pipings

**Issue**: Persistent Scaling and Localized Corrosion

**Causes**: High Hardness (> 800 mg/L as $CaCO_3$), and High Temperature often Exceeds 55°C

- Elevated temperatures
- Excessive hardness
- Fluctuations in system pH
- Mixed scale types (carbonate + phosphate)
- Incompatibility between corrosion inhibitors and scale inhibitors

**Consequences:**

- 15% loss in heat exchanger efficiency (0.4 mm scale layer)
- Up to 2.07 mm wall loss (90% of tube wall)
- 102 of 270 tubes blocked due to scaling
- Severe localized corrosion and leakage risk

**Tried Solutions:** Conventional phosphate-based inhibitors failed to provide effective control

## Our Solution

Deployed a high-performance, high-temp resistant **multi-functional corrosion and scale inhibitor**,

- **High-temperature-stable** blend of polyphosphonates and copolymer dispersants
- **Dual-mechanism design**: crystal lattice distortion + dispersive solubilization
- Innovative **zinc-based** corrosion inhibition system
- Polymer-coated **slow-release** stabilizers
- Intelligent water chemistry modeling

## Improvements

- **No visible scaling** on internal pipe surfaces, with deposition rates <1.2 mg/cm²
- Corrosion rate **reduced to <0.035 mm/y**
- Inhibitor dosage **reduced by 22%**
- **No acid cleaning required**, and heat transfer efficiency significantly improved

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# Application Study

**A Closed-Loop Circulating Cooling Water System of Steel Manufacturing**

## Case 2

**RO- Treated Reclaimed Water**

**Location**: Circulating Cooling Water System

**Issue**: Silica-iron composite deposits on heat exchanger surfaces

**Causes**: High Concentrations of Silica (>40 mg/L) and Ferrous Iron (>1.5 mg/L)

- High silica levels
- Ferrous ions react with silicates
- Iron oxidation products
- Any chemical solution must be biocompatible

**Consequences:**

- Heat transfer efficiency dropped by 20–40%
- Pitting corrosion in Stainless Steel up to 0.3 mm/y
- Turbidity rises from <5 NTU to >20 NTU
- Downtime increases to 12–36 hours per quarter
- Chemical consumption increased by 30–60%
- Significant rise in OPEX

**Tried Solutions:** Conventional inhibitors are ineffective against silica scaling and may form iron-organic colloids that clog pipes

## Our Solution

Introduced a specially designed, low-phosphorus corrosion and scale inhibitor for silica and iron-rich reclaimed water systems.

- Silica control polymer with **multi-amine side chains** to prevent polymerization and deposition.
- Advanced iron **stabilizer**
- Inorganic-organic corrosion inhibitor system, incorporating **rare earth elements** and **polyphosphonocarboxylic** acids
- Bio-inert formulation design
- **Microencapsulated slow-release** technology

## Improvements

- Pressure drop across heat exchangers **remained stable** with no new deposition
- Pitting corrosion incidence **reduced by 85%**
- **Iron levels** stabilize at <0.1 mg/L with no turbidity or visible colloid formation
- Total chemical cost **reduced by 46%**, with enhanced reliability and fewer shutdown

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