OVER 20 YEARS’ EXPERIENCE IN INDUSTRIAL WATER TREATMENT

Background

2010
Having exclusively distributed DIAPROSIM™ products, ALM International S.A. takes ownership of the trademark and its formulations.

2009
Dow Chemical acquires the ROHM & HAAS site in Chauny, currently Dow Water & Process Solutions.

1995
ALM INTERNATIONAL begins distributing the DIAPROSIM™ range for ROHM & HAAS.

1962
DIAMOND SHAMROCK and PROSIM become DIA-PROSIM™, industrial water treatment products manufactured by ROHM & HAAS. PROSIM-ACFI begins manufacturing water treatment products.

COMPLETE RANGE OF WATER TREATMENT PRODUCTS COMPLYING WITH CURRENT REGULATIONS, INCLUDING REACH AND CLP

MANUFACTURING COMPLIANT WITH THE ISO 9001 AND 14001 STANDARDS

A TEAM OF ENGINEERS OFFERING A COMPLETE EXPERTISE

QUALITY PRODUCTS MANUFACTURED IN FRANCE AND EUROPE

DIAPROSIM RECOMMENDED BY ENGINE MANUFACTURERS WÄRTSILÄ - SACM DIESEL - SEMT PIELSTICK - MAK - MAN B&W
SERVICES

A PERSONAL APPROACH

DIAPROSIM™ boasts an experienced, dynamic and responsive team that offers the following services:

- Diagnosis of the condition and treatment of facilities
- Water analysis (strategic points)
- Recommendation of an appropriate solution and treatment
- Establishment or improvement of an appropriate pre-treatment proposal
- Transfer of knowledge to your qualified staff by means of training for technicians in using the products

A WIDE RANGE OF PRODUCTS

SUITABLE FOR

- Low, medium and high-pressure boilers
- Hot water loops
- Closed, semi-open and open cooling circuits
- Domestic water and wastewater
- Other specific applications

CERTIFIED PRODUCTS MANUFACTURED IN FRANCE

The DIAPROSIM™ range complies with current regulations, including REACH (EC) N°453/2010 and CLP(EC) N°1272 / 2008, and is also environmentally-friendly, boasting both ISO9001 and ISO14001 certification.

DIAPROSIM™ BOASTS EXPERTISE IN SEVERAL SECTORS

- Food-processing (brewing, sugar refinery, etc.)
- Energy production
- Oil and mining industry
- Paper production and printing
- Public service
- Transport (sea, rail, etc.)
- Chemicals industry
DIAPROSIM™
DOSAGES AND FORMULATIONS

We determine the dosage of our products according to the characteristics of each facility. We have a team of chemical engineers with comprehensive and individualized expertise in each of the specific processes implemented by our clients, regardless of their activity or the application.

OUR AIMS

- To reduce maintenance costs in the medium and long-term
- To reduce consumption
- To increase productivity
- To increase the lifespan of the facility

YOUR CONTACT

+33 (0)3 80 97 36 29
diaprosim@alm-inter.com
CLOSED COOLING CIRCUITS

OUR SOLUTIONS

TRIAL OF DIAPROSIM™ RD25 at room temperature

Demineralized water
$T^\circ: 20^\circ C$ (after 40 days)

Demineralized water + DIAPROSIM™ RD25
$T^\circ: 20^\circ C$ (after 40 days)

DIESEL ENGINE CIRCUIT ADDITIVES

DIAPROSIM™ RD11
Powder
Multi-metal Protection * (no aluminium)

DIAPROSIM™ RD15
Liquid
Multi-metal Protection * (no aluminium)

DIAPROSIM™ RD25
Liquid
Multi-metal Protection * (incl. aluminium)

DIAPROSIM™ RD60
Liquid
Multi-metal Protection * (product does not contain heavy metals)

* Glycol-compatible

INDUSTRIAL CIRCUIT ADDITIVES

DIAPROSIM™ EC10N
Liquid
Multi-metal Protection * (incl. aluminium)

DIAPROSIM™ ES111RDS
Liquid
Multi-metal Protection * (no aluminium)

DIAPROSIM™ RD85
Liquid
Multi-metal Protection * (incl. aluminium)

ANTI-FREEZE PRODUCTS WITH ADDITIVES

DIAPROSIM™ RDH
Liquid
Concentrate MEG to be diluted as required (no aluminium)

DIAPROSIM™ MPGEL
Liquid
Concentrate MPG to be diluted as required

DIAGEL 6N
Liquid
Concentrate MEG to be diluted as required
(recommended for protecting aluminium)

DIAMIGEL 6N / TRIAGEL 6N
Liquid
Ready-to-use MEG (recommended for protecting aluminium)

CURATIVE TREATMENTS

DIAPROSIM™ RD13
Powder
Scale Deposit Removal

DIAPROSIM™ Z520
Liquid
Bio-Degreaser. Cleaning for circuits soiled by oil and grease

DIAPROSIM™ B150
Liquid
Silica and Iron Oxide Dispersion

DIAPROSIM™ Z550
Liquid
Slow Operational Sludge Removal
RESULTS
Constant and optimal heat exchange

OPTIMISATION of cleaning operations
INCREASE in production yields
PREVENTION of corrosion phenomena

PROBLEMS ENCOUNTERED
CORROSION
Due to the effects of the oxygen and carbon dioxide dissolved in the process water

WATER QUALITY, OUR PRIORITY
www.diaprosim.com

SOME OF OUR REFERENCES
BRENNTAG LOIRE
DEGREMONT
EMCC
MARITIMA
RMC
SEMT PIELSTICK
SENoble
VATTENFALL
WÄRTSILÄ

DIA PRO SIM
A TRADE MARK OF ALM INTERNATIONAL

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# OPEN AND SEMI-OPEN COOLING CIRCUITS

## OUR SOLUTIONS

### ANTI-SCALE / DISPERSION ADDITIVES

<table>
<thead>
<tr>
<th>Product</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAPROSIM™ Z100L</td>
<td>Liquid</td>
<td>Phosphate-based agent</td>
</tr>
<tr>
<td>DIAPROSIM™ Z204</td>
<td>Liquid</td>
<td>Liquid Organic agent</td>
</tr>
</tbody>
</table>

### ANTI-CORROSION TREATMENTS

<table>
<thead>
<tr>
<th>Product</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAPROSIM™ Z51/Z52</td>
<td>Liquid</td>
<td>Specific Copper Inhibitor</td>
</tr>
</tbody>
</table>

### MULTIFUNCTIONAL TREATMENTS

<table>
<thead>
<tr>
<th>Product</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAPROSIM™ Z160</td>
<td>Liquid</td>
<td>Anti-scale/Anti-corrosion</td>
</tr>
<tr>
<td>DIAPROSIM™ Z122LN</td>
<td>Liquid</td>
<td>Anti-scale/Anti-corrosion</td>
</tr>
<tr>
<td>DIAPROSIM™ Z145L</td>
<td>Liquid</td>
<td>Organic Treatment</td>
</tr>
</tbody>
</table>

### BIODISPERSANTS / DEGREASERS

<table>
<thead>
<tr>
<th>Product</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAPROSIM™ D221</td>
<td>Liquid</td>
<td>Organic Matter Dispersion</td>
</tr>
<tr>
<td>DIAPROSIM™ Z520</td>
<td>Liquid</td>
<td>Bio-Degreaser</td>
</tr>
</tbody>
</table>

### BIOCIDES

<table>
<thead>
<tr>
<th>Product</th>
<th>Form</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAPROSIM™ Z320</td>
<td>Liquid</td>
<td>Biocidal (isothiazolone)</td>
</tr>
<tr>
<td>DIAPROSIM™ Z321</td>
<td>Liquid</td>
<td>Biocidal (glutaraldehyde)</td>
</tr>
<tr>
<td>DIAPROSIM™ Z330N</td>
<td>Liquid</td>
<td>Biocide (DBNPA)</td>
</tr>
<tr>
<td>DIAPROSIM™ FB9A3</td>
<td>Liquid</td>
<td>Biocide (quaternary ammonium)</td>
</tr>
</tbody>
</table>
RESULTS

Constant and optimal heat exchange

**Reduction** in purge frequency

**Reduction** in water consumption

**Prevention** of bio-film development and the risk of legionella

**Prevention** of corrosion and scaling phenomena

**Increase** in heat exchange output

PROBLEMS ENCOUNTERED

Corrosion, biological development, legionella and fouling

**SOME OF OUR REFERENCES**

OMNICANE (MAURITIUS)
LINGAO NUCLEAR POWER STATION (CHINA)
CORAF (CONGO)
SONABEL (BURKINA FASO)
CTRE CIAL COOP (SWITZERLAND)

**YOUR CONTACT**

+33 (0)3 80 97 36 29
diaprosim@alm-inter.com
BOILERS / HOT WATER LOOPS

OUR SOLUTIONS

PH ADJUSTMENT/ALKALIZING AGENTS

DIAPROSIM™ B115 Liquid pH Adjustment and Dispersant
DIAPROSIM™ CIP0 Powder pH Adjustment

OXYGEN SCAVENGERS

DIAPROSIM™ 820/830 Liquid Oxygen-Scavenger for low and medium pressure boiler
DIAPROSIM™ B120 Liquid Oxygen Scavenger for high pressure boiler

MULTIFUNCTIONAL TREATMENTS

DIAPROSIM™ CIP2/85R2 Powder For low and medium pressure boiler
DIAPROSIM™ B116/B117 Liquid For low and medium pressure boiler
DIAPROSIM™ B108 Liquid Tannin-based for boilers up to 20 bars

DISPERSANTS

DIAPROSIM™ B150 Liquid Silica and Iron Oxide Dispersant
DIAPROSIM™ B113 Liquid Dispersing agent for low and medium pressure boiler

CONDENSATE NEUTRALISERS

DIAPROSIM™ VN11 Liquid For low and medium pressure boiler
DIAPROSIM™ VN14 Liquid Food-Grade Steam Boiler
DIAPROSIM™ VEC8L Liquid Food-Grade Steam Boiler
DIAPROSIM™ VEC9L Liquid For low and medium pressure boiler

ANTI-PRIMING TREATMENT

DIAPROSIM™ TSB Liquid For low and medium pressure boiler

SPECIFIC APPLICATIONS

DIAPROSIM™ DPL50 Liquid Anti-Corrosion for Domestic Water
DIAPROSIM™ B113 Liquid Dispersing agent for Sea Water Evaporator
RESULTS

Constant and optimal heat exchange

- **REDUCTION** in purge frequency
- **REDUCTION** in water consumption
- **PREVENTION** of scaling and clogging phenomena in narrow pipes
- **REDUCTION** in the frequency of maintenance operations
- **INCREASE** in production output

PROBLEMS ENCOUNTERED

**CORROSION**
Due to the effects of the oxygen and carbon dioxide dissolved in the process water

**SCALING**
Deposit of scale caused by the presence of mineral salts and organic matter in the water

WATER QUALITY, OUR PRIORITY

www.diaprosim.com

CORROSION
Due to the effects of the oxygen and carbon dioxide dissolved in the process water

SCALING
Deposit of scale caused by the presence of mineral salts and organic matter in the water

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OUR SOLUTIONS

Thanks to its experience in the sugar-producing industry, DIAPROSIM™ is able to offer a range of FDA approved products to safeguard and maintain your facilities and increase your yields.

EVAPORATORS’ TREATMENT

- **DIAPROSIM™ Z605S**: Scale inhibitor
- **DIAPROSIM™ Z208S**: Scale inhibitor
- **DIAPROSIM™ Z610**: Alkaline evaporator cleaning additive
- **DIAPROSIM™ RD13**: Acidic evaporator cleaner

MILL AND SETTLING TANK TREATMENT

- **DIAPROSIM™ AB13**: Biocide
- **BIONET S15**: Biocide
- **DIAPROSIM™ FOA HW**: Anti-foaming agent
- **DIAPROSIM™ AM100S**: Anti-foaming agent
- **ALM FLO 40**: Flocculant

RESULTS

- **INCREASED** production cycle duration
- **REDUCTION** in sugar loss
- **IMPROVED** settling
**COAGULATION / FLOCCULATION / SLUDGE THICKENING**

- **DIAPROSIM™ ECOAG-S**  Organic coagulant (100% plant-based)
- **DIAPROSIM™ ECODE-S**  Emulsion-Breaking Flocculant (100% vegetable source)
- **DIAPROSIM™ ECOFLO-S**  Cationic Flocculant, high molecular weight
- **DIAPROSIM™ FLO100**  Cationic Flocculant (plant-based)

**BIOLOGICAL TREATMENT**

- **DIAPROSIM™ 6300**  Substrate for Micro-Organism growth
- **DIAPROSIM™ 6310**  Substrate for Organic Grease Treatment

**COMPREHENSIVE SOLUTIONS**

Thanks to various partnerships with professionals in the wastewater treatment sector, DIAPROSIM™ is able to offer complete wastewater treatment solutions that reflect your specific needs.

- Physico-chemical treatment
- Biological treatment
LABORATORY EQUIPMENT AND PRODUCTS

In addition to its range of water treatment products, DIAPROSIM™ offers all the necessary equipment you need for effective treatment and follow-up.

WATER PRE-TREATMENT EQUIPMENTS

- **SOFTENER**: Removal of hardness in the water (calcium and magnesium)
- **DEMINERALISATION UNIT**: Reduction or elimination of mineral salts and production of demineralized water
- **SAND FILTER**: Elimination of suspended solids
- **ACTIVATED CARBON FILTER**: Elimination of chlorine and treatment of gas and odours
- **ULTRAFILTRATION UNIT**: Elimination of particles with a high molecular weight (> 1 nm) and disinfection of water
- **REVERSE OSMOSIS UNIT**: Purification of water and elimination of impurities and sulphate and phosphate solutes

ACCESSORIES

CONSUMABLES

- **ION EXCHANGE RESINS**: Cationic, anionic, mixed beds
- **MEMBRANES**: All types
- **SILEX**: All particle sizes
- **ACTIVATED CARBON**: Treatment of drinking and industrial water
- **CARTRIDGES**: All types
- **BIONET S8**: Treatment, cleaner and disinfectant for resins and filters
- **DIAPROSIM™ RO SERIES**: Treatment and cleaning of reverse osmosis membranes
DISINFECTION EQUIPMENTS

UV STERILISATION UNIT
UV rays are used for their germicidal and bactericidal properties in the disinfection of water

CHLOROXYM
Generation onsite of sodium hypochlorite using salt, water and electricity

LABORATORY PRODUCTS

LABORATORY REAGENTS
All water analyses (TA, TAC, TH, Cl; etc.)

GLASSWARE AND ACCESSORIES
Beakers (all types), burettes, graduated measuring cylinders, flasks, Petri dishes, etc.

DEVICES AND INSTRUMENTS
Scales, conductivity meters, ovens, jar test flocculators, etc.

ANALYSIS KITS
Alkalinity (TA/TAC), chlorides, DEHA, total hardness TH, hydrazine

PORTABLE CASES
Professional multi-parameter analysis case for cooling towers, treatment plants, etc.

DOSING EQUIPMENTS

PREPARATION TANKS
All volumes

METERING PUMPS
All pressures, all flows, ATEX areas, skid, etc.