



ImproChem

Water, Energy & Air Solutions

Capabilities Brochure

Integrated Solutions & Technologies for the Industries we serve



ImproChem provides innovative **Water, Energy and Air Quality** management solutions to industry which add sustainable value to our Customers as well as our Shareholders, Employees and Communities.

In order to help our Customers solve some of their toughest water, energy and air quality management challenges on site, ImproChem utilises a combination of:

- World-class Chemical Technology
- Mechanical Equipment & Custom-engineered Systems
- Knowledge & Experience gained from over 50 years in operation
- On-line, Real-time Monitoring & Control Instrumentation
- Proprietary Software and Information Platforms
- Technical Expertise and Support from our Global Technology Partners

In essence, we work with our Customers to develop integrated solutions for continuous improvement in equipment integrity, process efficiency and product quality, whilst minimising water usage and waste generation.



Solid/Liquid Separation Solutions

- Comprehensive range of Coagulants; Flocculants and Dewatering Aids
- Trusted **Sudfloc™** range for potable water treatment *
- Disinfection technologies
- **Foamtrol™** range of Antifoams & Defoamers
- Cleaners & Descalers, including **FerroQuest™**, one step cleaning (neutral pH) and passivation for pipeline and equipment restoration
- pH Control solutions for underground and surface water treatment
- Class-leading **Hypersperse™** and **Kleen™** treatment programmes, including **Argo Analyser™** selection software, for maintaining and restoring optimum Reverse Osmosis membrane performance
- SABS and NSF approved products for potable water production



Advanced Boiler Water & Fire-side Programmes

- **OptiSpurse™** and new revolutionary **SOLUS™** range of internal treatment products for scale and deposit control
- **CorTrol™** range of oxygen scavenger products to prevent corrosion of metal surfaces due to oxygen attack
- **Steamate™** range of condensate treatment to prevent carbonic acid attack, oxygen corrosion and erosion
- Adjunct treatments for supplemental pH and foam control
- **FuelSolv™** combustion and fuel additives improve combustion efficiency and help keep boiler fire-side surfaces clean
- **Firewatch™** range of fire-side additives to minimise soot deposit build-up and improve system efficiency
- Advanced on-line monitoring and control equipment for optimising boiler cycles and chemical demand



Total Cooling System Control

- Revolutionary **GenGard™** range for scale and deposit control in open recirculating cooling systems
- **Inhibitor** series for system corrosion control
- **FloGard™** products are tailor-made for once-through cooling applications, food & beverage applications and potable water systems
- **ScaleTrol™** series of antifoulants for heavy industrial cooling applications such as scrubber systems and ash water lines
- **Corrshield™** range of products for closed cooling systems
- **Spectrus™** range of Biocides includes various oxidising and non-oxidising biocides for microbiological control
- Patented **Justeq** bio-cleanup programme for microbiologically fouled cooling systems



Chemical Technology for Oil & Gas Exploration and Production

- **Embreak CDM™** - Emulsion breaking technology
- **EndCor OCC™** - Corrosion and sulphide control
- **ScaleTrol PDC™** - Scale formation control: BaSO_4 , CaCO_3 , CaSO_4 , SrSO_4
- **Biomate SAN™** - Microbiological control
- **Solisep PAF™** - Foam control
- **SpecAid CDC™** - Wax, Asphaltene and Hydrate control
- **Kleen AC-SC™** - Cleaners and injectivity aids
- **Klaraid™** - Produced water clarification and oil removal
- Mud flocculants; Lost Circulation Materials; Drag Reducers; Pour Point Depressants; Acid Treatments



Total Solutions for Hydrocarbon Processing

- **Embreak™** - Emulsion breaking technology
- **pHilmPLUS™** - Corrosion control technology
- **LoSALT™** - Overhead corrosion and amine salt deposition prediction and prevention
- **PREDATOR™** - The total approach to opportunity crude processing
- **Thermoflo™** - High temperature antifoulants
- **Solset™** - Slurry settling aids
- **Dimetallic™** - Metals passivation
- **Max-Amine™** - Total solutions for amine units



Chemical Process Industry Solutions

- **Petroflo™ Corrosion Control** - oil and water soluble Filmers; Neutralizers; Oxygen Scavengers
- **Petroflo™ Foam Control** - Silicone-based; Copolymer-based and PEG-based Process Antifoams. Includes groundbreaking **FoamSense** on-line monitoring and control for automated antifoam dosing in response to changing process operating variables
- **Petroflo™ Fouling Control** - Free Radical Inhibitors; Carbonyl Scavengers; Antioxidants; Metal Deactivators; Surface Modifiers; Dispersants
- **Petroflo™ Emulsion Control** - Emulsion Breakers to manage and dissipate emulsion-forming processes
- Total treatment, monitoring and control solutions for Primary Petrochemical and Ethylene producers



Refinery and Finished Fuel Specialty Additives

- Fuel Conductivity Improvement: **STADIS®** Static Dissipator additives
- Fuel Stabilisation: Antioxidants; Metal Deactivators; Dispersants and Anti-microbial additives
- Cold Flow Improvement: Middle Distillate Flow Improvers; Pour Point Depressants and Wax Anti Settling Aids
- Combustion Enhancement: Cetane Improvers; Octane Improvers; Fuel Oil Combustion Improvers and Multifunctional Detergent Systems
- Corrosion Protection: Corrosion Inhibitors for petroleum fuels; bioethanol and gasohol blends
- Engine Wear Protection: Lubricity Improvers and Anti Valve Seat Recession Additives
- Fuel Dyes and Markers
- Crude Tank Cleaning chemistries offering rapid sludge dissolution with enhanced oil recovery

*Sudfloc™ is a trademark of Clariant



Engine Coolants

- **Reco-Cool** heavy duty engine coolants offer extended life, drain interval and warranty
- Compatible with SCA's and approved by major OEM's
- Suitable for Long Haul, Agricultural, Construction and Off-road Equipment, as well as light duty vehicles
- Compatible with other coloured coolants
- Meets ASTM D6210-10 for Heavy Duty applications
- Establishment of on-site blending and dosing plants for **Reco-Cool** products
- Field testing equipment and analysis



Air Quality, Bio-augmentation & Industrial Process Technologies

- **DusTreat™** - Road Dust Control treatment programmes are specifically formulated to control fugitive dust from unpaved plant and mine ramps as well as haul roads
- **CoalPlus™** Antioxidants and Binders and **PowerTreat™** Coal Dust Control additives that help prevent fugitive dust emissions and promote safe handling practices
- **ProSweet™** range of treatments includes hydrogen sulphide and non-hydrogen sulphide inhibitors, scavengers and neutralisers to address objectionable odours in a wide range of applications
- **BioPlus™** range of bio-augmentation products are boosted, live microorganism cultures formulated for specific environments
- **FoodPro™** industrial process solutions for pasteuriser, retort and food packaging protection



Package Plants, Standard Equipment & Engineered Solutions

- Modular package plants including clarifiers; dissolved air flotation units; multimedia filters; water softeners; demineralisation plants; disinfection systems; membrane filtration systems (MF, UF, NF, RO & MBR) and many more
- Cost-effective plant designs and robust technology offering reduced lifecycle expenses
- Design, build and operate water treatment plants for industrial water, potable water and wastewater treatment
- Water and salt balance studies to achieve optimum water reuse and recycle objectives
- Integrated water treatment plant design and project management, from conceptual phase through to commissioning and handover
- Maintenance spares, including spiral wound membranes and depth filters



Advanced Chemical Handling - ChemTRAC™

- Returnable stainless steel container programme
- Benchmark in safe chemical handling
- Reduces chemical heel-loss (wastage); SHE hazards and carbon footprint associated with drums and other disposable containers
- Significantly enhances cradle-to-grave management of our chemical products
- ChemTRAC container sizes: 3000, 1500, 750, 250 and 60 litre returnable units
- Fleet of more than 2500 units, capital investment of >R80 Million
- *Only available in South Africa at present*



Specialised Laboratory Services & Supplies

- **Chemistry laboratory** - comprehensive water analysis; deposit analysis; corrosion coupon analysis; resin analysis; membrane autopsies; metallographic failure analysis; pilot cooling towers for treatment programme testing and development
- **Microbiological laboratory** - wide range of analytical detection methods used for identification and enumeration of microorganisms. Detailed Legionella risk assessment services are also provided by ImproChem
- **Hydrocarbon laboratory** - portable electric desalter testing; crude oil and fuel oil stability testing; corrosion testing, deposit analysis; flashpoint analysis; solvent extractions. Field Fouling Monitor (FFM) for crude compatibility studies, VISTAR stability measurement and hydrocarbon liquid fouling tendencies.
- **Process screening laboratory** - process simulations and chemical screening tests
- Laboratories are certified according to the **ISO 9001** accreditation system
- Authorised distributor of **Palintest®** analytical instruments and reagents



World-class Manufacturing Capability

- South African manufacturing sites include Umbogintwini - KwaZulu Natal south coast (production capacity 25,000 tons/ annum) and Pietermaritzburg - inland KwaZulu Natal (production capacity 30,000 tons/annum as finished product)
- More than 350 unique chemical formulations produced
- Manufacturing processes include acrylamide monomer, latex polymers, polyamines, aluminium-based coagulants, polyacrylates, liquid reactions and liquid blends
- Accreditations include **ISO 9001**, **ISO 14001**, **OHSAS 18001**, **SABS 1828**, **SABS 1853** and **NSF** (potable water treatment products)
- Flexible manufacturing systems ensure short production lead times and order-to-delivery cycles



Advanced Monitoring & Control

- **im-PROSERV TrueView** - web-based data management and communication platform
- **TrueSense™ Online** - monitors and controls product residuals for optimum cooling system performance
- **Onvida Biomonitor** that can quantify biofilm accumulation at water/surface or air/surface interfaces
- **Settling Wizard™** for controlling and optimising thickener operations
- **TrueSense™ for Process** - Corrosion Overhead Monitoring System
- **Rightrax™** - non-intrusive, on-line corrosion monitoring (intrinsically safe options available)
- **PaceSetter Platinum™** - advanced chemical feed controller
- and many more.....



ImproChem

Water, Energy & Air Solutions



Public Water



Upstream Oil & Gas



Refining



Chemical Processing



Mining



Industrial



Food & Beverage



Engineered Solutions

Head Office

P.O.Box 2954 • Kempton Park • 1620 • South Africa
Telephone: +27 11 971-0400
Facsimile: +27 11 394-3436

Email

improchem@improchem.co.za

Website

www.improchem.co.za

South African Offices

Bloemfontein
Cape Town
Chloorkop
Durban
East London
Emalaheni (Witbank)
Fochville
Klerksdorp
Middelburg

Modderfontein
Nelspruit
Pietermaritzburg
Port Elizabeth
Richards Bay
Rustenburg
Sasolburg
Secunda
Umbogintwini
Welkom

Africa & Indian Ocean Island Operations

Angola	Mali
Botswana	Mauritania
Burkina Faso	Mauritius
Cameroon	Mozambique
Congo	Namibia
Cote D' Ivoire	Nigeria
DRC	Senegal
Ethiopia	Seychelles
Ghana	Swaziland
Guinea	Tanzania
Kenya	Tunisia
Lesotho	Uganda
Madagascar	Zambia
Malawi	Zimbabwe

Countries of Operation

