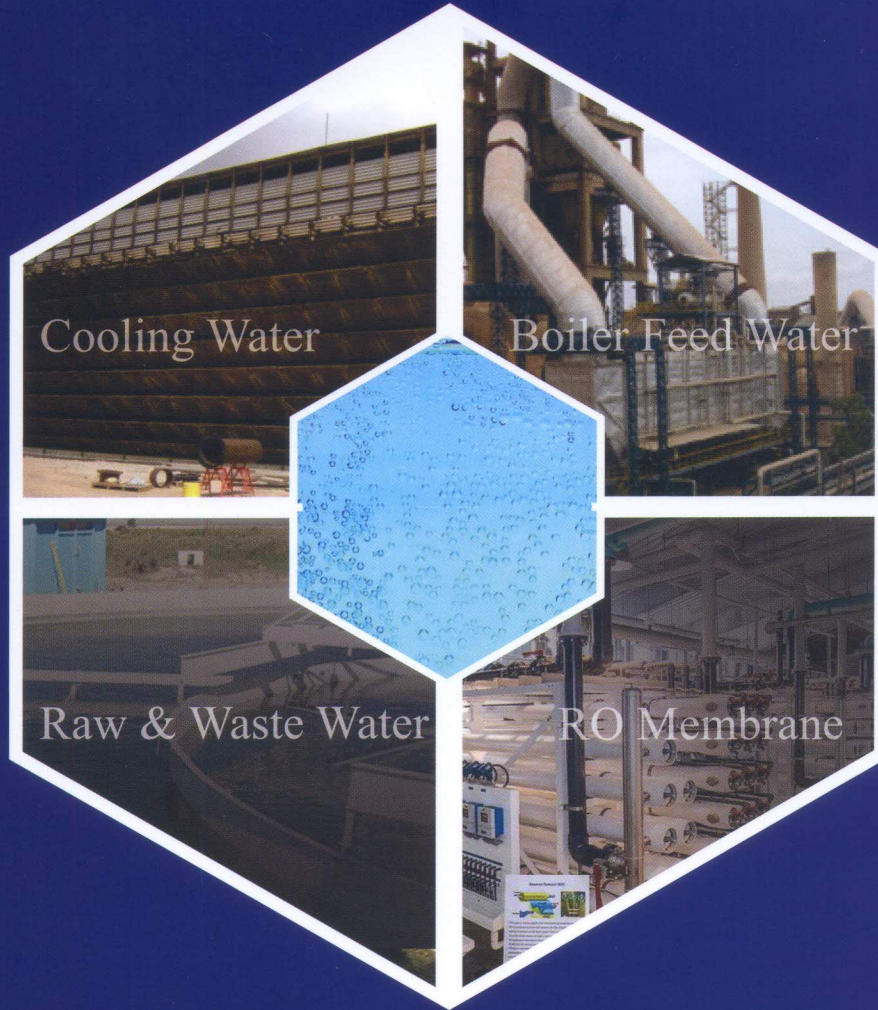


Water Management at its Engineered Best



Together we can protect our planet



Envirex India Pvt. Ltd.

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ENVIREX INDIA PVT LTD, part of one of the oldest and most reputed industrial houses in India, the Chemtrols Group offers an extensive range of high performance speciality water treatment chemicals for industrial, Municipal and commercial water solutions. With its state-of-the-art manufacturing facility, with an installed capacity of about 3500 MT per annum, an 'in house' R & D facility, an Application laboratory and a Quality Control Laboratory at the Taloja Industrial Area, Mumbai, ENVIREX is committed to offering the most comprehensive and customized solutions best suited to clients' requirements. In order to deliver prompt and efficient customer support, we have branches strategically located in places like Mumbai, Pune, Vadodara, Hyderabad, Chennai, Bangalore and Kolkata.

Sharing the clients' concerns on environmental protection, all the products are manufactured and applied in strict conformity to the prevailing statutes of environmental protection.



WHY WATER?

Water is used in industry as a heating and cooling medium because it is the most abundantly available natural resource.

Water is the 'only' Chemical substance which retains its molecular integrity in all its forms (solid, liquid & vapour) and does not undergo decomposition.

Among all the heat transfer media, water possesses the best 'Heat Capacity' or 'Specific Heat' (i.e., Mole to Mole, Water is the only chemical substance that can absorb or release the maximum heat).

SOME IMPORTANT FACTS ABOUT WATER!

- ▶ About 75% of 'Universal Matter' is Water.
- ▶ Of this, about 90% is held in Oceans, Seas and other Brackish water lakes.
- ▶ About 6% is held in Polar Ice caps and high mountains in the form of snow caps.
- ▶ Another 2% is held in Dead Sea and other inaccessible lakes and reservoirs.
- ▶ Only 2% of 'Fresh water' is available for human and industrial consumption in the form of fresh water sources.
- ▶ Even this meagre resource is being depleted rapidly due to mindless exploitation, heavy industrialisation and urbanisation.
- ▶ It is predicted that by the turn of this Century, Water would become the most precious commodity, surpassing all precious materials, known so far!

RECLAIM

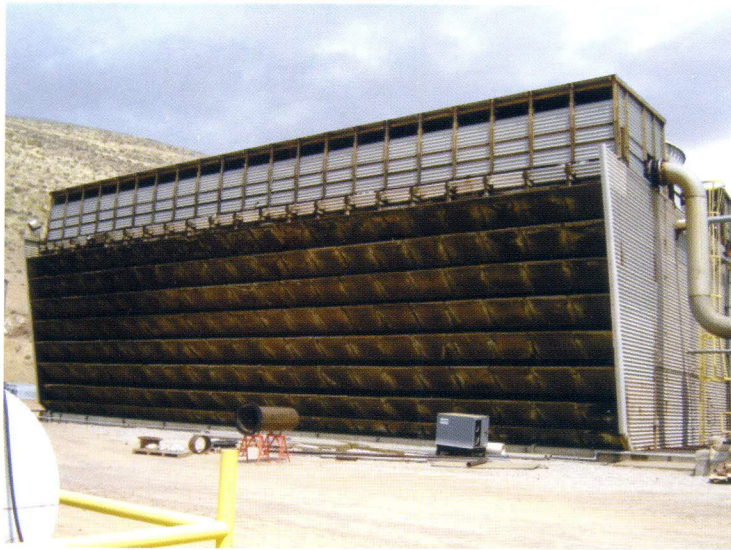
RECYCLE

RE USE

THE 3 R s & ZLD

The situation being so alarming, the "3 R" s are imperatives with respect to human and industrial consumption of water

ZERO LIQUID DISCHARGE



Cooling Water Treatment

In Cooling water, impurities like Dissolved Minerals (also called the 'Hardness Salts') and suspended solids, dissolved gases and microbiological growth of algae and bacteria lead to typical problems of Scaling/Deposition, Physical and Micro Organic fouling and Corrosion resulting in poor heat transfer performance, premature equipment failure, unscheduled/extended plant outage, drastic reduction of cooling tower efficiency and increased maintenance costs. Interestingly, all these problems are inter related, one leading to the other in a vicious cycle.

ENVIREX offers a complete range of chemicals for varied water qualities to ensure a total solution to cooling water problems.

Corrosion inhibitors (Phosphate/ Zinc, low Phosphate/ low Zinc, all Phosphate/ Non – Zinc programs)
 Dispersants/Antiscalants, Halogen Resistant Organic Triazoles for Yellow Metal Corrosion inhibition
 Oxidising Biocides (Non-Chlorine and Solid Organic Chlorine)
 Broad-Spectrum Non-Oxidising Biocides
 Closed Loop Chilled Water/ Hot Water systems Corrosion inhibitors (Nitrite and Molybdate based)

“ENVIREX MILLENNIUM” – A Unique Concept In Cooling Water Treatment

“**ENVIREX MILLENNIUM**” is a concept that contains a basket of custom made ingredients to handle any kind of water, hardest to the softest. It finds universal application for all types of waters and systems. It incorporates,

- A corrosion inhibitor for Ferrous and Non-Ferrous metals
- A blend of unique 'Higher Homologue' Organic Phosphates for effective mineral sequestration even at very high hardness loads and Thermal stresses
- A unique blend of Homo/Ter/Tetra and Oligo Polymers with comprehensive Crystal Distortion/ Modification capabilities to keep the heat transfer surfaces free from mineral scales and non-biological fouling
- A new generation blend of 'Halogen Resistant', rapid film forming Organic Triazoles to afford complete corrosion protection for Yellow Metal components

The 'ENVIREX MILLENNIUM' Advantages

System operation at elevated Concentration Ratios (Cycles of Concentration) as high as 12-15 COC in specific cases
 Direct savings on water cost due to reduced Blow down and Make Up
 Reduced water discharge and reduced Load on post-treatment systems like ETP and STP
 Excellent performance results with waters of very low to very high hardness
 Completely trouble free equipment performance and system protection
 Excellent control of Corrosion, Deposits/Scale, Biological fouling and Physical fouling
 Environment friendly, non-toxic, non-polluting and auto-degradable/ bio-degradable ingredients
 Extremely economical in terms of direct water/chemical savings
 Indirect savings in terms of reduced post-treatment costs

Program Capabilities

Parameter	Unit	Circulating Water Controls
pH		6.2 – 9.0
Conductivity	Ms / cm	100-10000
Total dissolved solids	ppm	60-7000
Turbidity	NTU	0-70
Total hardness	ppm CaCO ₃	5-2500
Calcium hardness	ppm CaCO ₃	5-2500
Total alkalinity	ppm CaCO ₃	20-750
Silica	ppm SiO ₂	0-300
Chlorides	ppm Cl	0-2500
Total iron	ppm Fe	0-5.0



Boiler Feed Water Treatment

Impurities in Boiler water like low soluble salts, dissolved gases and suspended solids cause severe problems of Scaling, Deposition and Corrosion, resulting in reduced efficiency, Tube failures due to "Oxygen Pitting" and high downtime/maintenance costs. **ENVIREX** offers a wide range of products for comprehensive boiler protection based on the Feed water quality and Boiler pressures.

▲ Low and Medium Pressure Boilers (6-15 Bar)

- Corrosion inhibitors, Sludge conditioners, Antiscalants
- Catalyzed Sodium Sulphite based Oxygen scavengers
- pH boosters
- 'Single-drum' boiler treatment for low pressure/low tonnage boilers, once-through boilers and hot water generators
- **TANNIN**-based 'all-in-one' boiler treatment for low/medium pressure boilers
- Off-line boiler de-scaling chemicals

▲ High/Medium Pressure Boilers (25-85 Bar)

- Corrosion Inhibitors
- Hydrazine Hydrate/'DEHA'- based Oxygen Scavengers
- Condensate treatment
- Polyamine based All-volatile, 'Single-Drum' treatment for High Pressure Boilers including condensate treatment
- Iron removers

▲ Boiler Pre-Commissioning

- Pre-commissioning boil-out chemicals and pre-cleaning chemicals
- Idle boiler wet lay-up chemicals





Reverse Osmosis Membrane Treatment

Membrane Antiscalants (Fresh water, Brackish water and High Silica feed water)
Membrane Antiscalant for Sea water Desalination
Antiscalants for Multi-Effect, Flash Evaporation systems
Membrane cleaners (Acidic /Alkaline/Organic cleaners)
Membrane Biocides
Membrane Antioxidants
Membrane Preservatives
Antiscalants for Ultra Filtration systems
Antiscalants for Potable water systems
RO water pH boosters with low/nil TDS addition
SDI papers, kits and others
UF membrane treatment : Antiscalants, Cleaners



Raw and Waste Water Treatment

ENVIREX specialises at efficient solid-liquid separation at a faster rate and at low chemical dosages. In raw water treatment, **ENVIREX** Flocculants are applied in conjunction with Coagulants to ensure the best water clarity for any downstream application. In effluent water treatment, **ENVIREX** has Polyelectrolytes for a diverse range of industrial waste waters.

Organic and Inorganic Coagulants for Raw water clarification
Sedimentation/Settling aids for silt, mud and other turbid/colloidal species
Polyelectrolytes of broad ionicity (Cationic, Anionic and Non-Ionic; very high charge density and Molecular Weight)
Liquid/Liquid, Solid /Liquid separation aids/Defoamers
Colour and Odour removers
BOD / COD improvers
Custom made Textile/Leather effluent Colour removers



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