



# CALFA BAS

## CALFA BAS

CALFA CHEMICAL  
CO., LTD.

1. Phosphorus-free, Nitrogen-free, and Neutral Water Treatment Preparation
2. Removes and Prevents Silica Scale in Cooling Towers
3. Environmentally-Friendly Water Treatment Preparation that Meets ISO 14001 Requirements

## Overview of Product / Technology

When scale is adhering to the heat exchanger of a cooling tower, cooling efficiency is greatly reduced, resulting in wasteful consumption of electricity. Since many conventional water treatment preparations are based on organic phosphorus compounds, they cause eutrophication in river and sea water and contaminate the environment when they are discharged.

CALFA BAS works differently from conventional organic chemicals, the CALFA BAS system uses a unique soluble amorphous chemical composed mainly of inorganic components only (components that originally exist on the earth) to chemically coagulate scale components and drains the resulting sludge from the lower part of the cooling tower. An outstanding next-generation environmentally-friendly water treatment preparation, CALFA BAS is capable of efficiently and safely removing silica scale that is especially difficult to deal with and blocks heat transfer.

A minute amount of CALFA BAS provides scale removal and prevention and its effect lasts for approximately 6 long months. When used with our antibacterial agent, CALFA BAS can also prevent bacteria and algae from growing.

Furthermore, when used with an auto blow-down system that removes water from the lower part of the cooling tower, CALFA BAS can keep water quality excellent, with almost no maintenance.

Drained water is not harmful, so you can safely recycle it for multiple purposes, including toilet flushing, plant watering, and daily life water supply.

As discussed above, you can greatly improve heat exchanger effectiveness and achieve substantial power saving, water saving, and environmental conservation by using CALFA BAS.



Before



After



# Detailed Information on Product / Technology

## 1. How It Works

- With the use of CALFA BAS, scale composed of ions ( $\text{Ca}^+$ ,  $\text{Mg}^+$ ,  $\text{Si}^+$ ,  $\text{Fe}^+$ , etc.) adhering to the water pipes will gradually soften and drop into the water tank in a scaly form. The deposit of scale should be cleaned up manually.
- Soluble components in the coolant ( $\text{Ca}^+$ ,  $\text{Mg}^+$ ,  $\text{Si}^+$ ,  $\text{Fe}^+$ , etc.) will become coagulated, forming chemically-stable, safe sludge in the lower part of the water tank. The deposit of sludge should be removed by a blow-down system. As a result, cooling efficiency will improve significantly (see the "before" and "after" photos).
- Because the coolant does not contain harmful components, it does not contaminate the environment when it is splashed or drained.

## 2. Safety and Responsibility for the Environment

CALFA BAS's safety is confirmed by various safety tests performed by Europe's authoritative testing organizations, including ones listed below (both are certified as OECD's GLP [Good Laboratory Practice] testing organizations). In addition, CALFA BAS has been registered with REACH in Europe.

- ACUTE INHALATION TOXICITY (NOSE ONLY) STUDY IN THE RAT

Testing Organization: SafePharm Laboratories (UK)

- ACUTE IMMOBILISATION TEST IN DAPHIA

Testing Organization: CENTRO DE INVESTIGACIONY DESAPROLLO APLICADO, S.A.L. (Spain)

## 3. Performance

- Amount to Use: Use CALFA BAS equal to 0.002% of the weight of the circulating water per hour.
- It is most effective for CALFA BAS to take 30 to 40 days, gradually, to remove scale. After removing scale, CALFA BAS prevents scale formation.
- CALFA BAS also provides a corrosion-proof effect on metals in the facilities.
- CALFA BAS eliminates maintenance costs, including costs for repairing the chemical injectors, etc.

## 4. Effectiveness

- CALFA BAS generally reduces water costs by 20% to 25%. (Results may vary depending on the conditions in which the product is used. Please note that these percentages are not always guaranteed.)
- Even 0.5mm-thick scale formed in a heat exchanger may increase electricity consumption by 160%. With the use of CALFA BAS, such increase will be prevented.
- In addition, maintenance costs will be greatly reduced as mentioned above.

## Patent Information

This product is trademarked in Japan, South Korea, China, Taiwan, Spain, Portugal, and Mexico.

## Overseas Distribution

Many distributors in Europe and Asia, including ISS Higiene Ambiental 3D (ISS GROUP)

## Contact

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