



kemira

Where water
meets chemistry™

KEMIRA LAKE RESTORATION

WORKING TOGETHER
FOR PURE LAKES

PARTNERING UP TO DEAL WITH LAKE CONTAMINATION

Lakes are vulnerable and significant. Both natural and artificial lakes are the home to a wide variety of plants and animals, as well as popular recreation spots. Whereas rivers can deal with foreign materials, standing water bodies are not as self-cleansing. Pollution from various sources such as municipal and industrial flows or seepage from agriculture nearby can damage the complex ecosystem of the lake. Eutrophication of lakes follows from excess amounts of nutrients such as phosphorus leading to algae as well as plant and fish deaths.

We can support lake restoration as a chemical partner, working together with our customizable solutions to treat excessive nutrient input.

High phosphorus concentrations and warm temperatures can also accelerate the growth of a special organism, blue-green algae. This particular bacterium releases microcystine, a toxic substance that threatens the health of humans and animals.



CLEANING LAKES REQUIRES CUSTOMIZABLE SOLUTIONS

We take into consideration that each lake and restoration case is different. We have divided our treatment methods into two basic ways.

EXTERNAL TREATMENT

Interrupting sources of phosphorus to the lake is the initial and best way to ensure long-term cleanliness. The other option is to reduce the amount of phosphorus at the source from where it comes to the lake. Using inorganic coagulants causes dissolved phosphate to bond chemically, so that it no longer has nutrient value. The precipitated, phosphorus-containing sludge is ideally discharged from the system.

IN-LAKE TREATMENT

The water body requires in-lake treatment, when eutrophication can no longer be avoided because of the lake's high nutrient content. Pontoon ferries and boats need to be used to distribute inorganic coagulants. As a result:

1. The dissolved phosphate is immediately bonded chemically.
2. The precipitated sludge settles down to the bottom of the lake and covers the sea floor, preventing further phosphorus release from the ground.



BENEFITS OF CLEANING LAKES WITH KEMIRA

- Specific treatment enabled by various product options.
- Potable water grade products allow safe treatment.
- Delivery reliability by our global network.
- Highly skilled technical service.
- Long-term global experience of lake restoration.

THE RIGHT CHEMICALS AND PARTNERS FOR PURE LAKES

Removing phosphates involves bonding them chemically. Iron and aluminum based coagulants are perfect for the job. They enable the easy separation of phosphate from the water after being incorporated in the precipitated sludge. Whether iron or aluminum is more suited depends on the chosen method of lake treatment and water conditions. If anaerobic zones exist, aluminum-based coagulants such as Kemira PAX are recommended.

Lake restoration is not only about the right chemicals, it is also an operation that involves people from several disciplines working together. Our experts from the Kemira Technical Service give support and advice on the right products and dosing of the required coagulants including their safe use and handling.

IRON AND ALUMINUM SALTS AGAINST PHOSPHATES

Our iron salts (Kemira PIX) and aluminum salts (Kemira PAX) are:

- manufactured from pure virgin raw materials.
- characterized by extremely low levels of heavy metals.
- guarantee chemical bonding of phosphates.
- improve flocculation of fine particles.
- minor effect to lake's buffer capacity.
- have special potable water grade approval.
- Kemira PAX is particularly suited for in-lake treatment.



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