



Providing Treatment Solutions for Air, Water, & Land

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(888)330-2260



Icarus

A Better Way to Increase pH & Alkalinity & Remove Heavy Metals & Phosphorus

Theia's Icarus system is an innovative and inexpensive means of raising the pH in any water stream. The system uses our unique media that imparts calcium to the water passing through it which raises the pH in a similar manner as lime would do. For those applications where this is suitable, Icarus offers a safer and less expensive alternative to caustic addition or lime addition. Because it is a calcium based technology, Icarus is a very cost effective means of providing alkalinity for biological treatment and other requirements.

The Icarus system has also proven very effective in the removal of a number of heavy metals. The most effective removal was on removal of Cadmium, Copper, Nickel, Lead and Zinc. The media was also effective on Arsenic removal. The Icarus media efficiently removes Phosphorus from water and wastewater.

Unlike caustic, there is no chemical to store and no handling concerns. The media can be stored dry almost indefinitely and cannot freeze. Unlike lime, there are no feeding or storage issues. The Icarus system represents a substantial reduction in both operating and capital costs.



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This unique media features a calcium source which is bound to a hard substrate. The media does not bind together and actually gets “cleaner” as time goes on. After the media has given its last in terms of pH increase and alkalinity, the media is an inert aggregate that can be used for driveways, drainage, or anywhere else you would use stone.

The Icarus system utilizes pH controls that are similar to those offered with any conventional pH system. Whether we are doing pH adjustment or heavy metals removal, the status of the media can be monitored by checking its effect on the pH of the water. Thus, nothing new for the operators to learn and no unfamiliar equipment.

The media is supplied in canisters or vessels and the system controls the water flow through the canisters. Depending on the size of the system and media usage, we can provide reusable canisters that are simply shipped back and forth or provide replacement service on site. For larger sites, the media can be removed using a vacuum or our Gravity Dump system that allows the operator to dump the spent media into a rolloff or right onto the ground where it can be moved via backhoe, etc.



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