

Carbon Dioxide-Carp Chemical Fact Sheet

Formulations

Carbon Dioxide-Carp (CO₂) is a registered pesticide with the EPA for use as a deterrent of Asian Carps and as an under ice lethal control for aquatic nuisance species. It was developed after laboratory studies indicated there may be utility for CO₂-enriched water to serve as a non-physical fish barrier. The product name is Carbon Dioxide-Carp and use of the product is limited to governmental agencies or persons under their direct supervision.

Aquatic Use and Considerations

Carbon Dioxide-Carp will be infused into navigational locks or approach channels to reduce the risk of non-native fishes moving upstream during vessel passage. The presence of invasive fish such as Asian Carp species necessitates an effort to reduce their spread. Introducing Carbon Dioxide-Carp into water creates an unfavorable environment for fish. Fish will avoid water with Carbon Dioxide-Carp and seek sources of fresh water. Carbon Dioxide-Carp works by causing a temporary effect on the physiology of aquatic organisms. Fish recover quickly when placed into fresh water. By infusing a lock chamber with Carbon Dioxide-Carp, the chamber should be cleared of fish, reducing the risk of spread.

Carbon Dioxide-Carp is stored in tanks and pumped into the water as a gas where it will dissolve in the water. Most aquatic animals will avoid water with elevated CO₂. At the point of Carbon Dioxide-Carp injection, the pH of the water may be lowered. Other water quality characteristics may be altered slightly, thus monitoring is required.

When used as a barrier, elevated regions of Carbon Dioxide-Carp will be localized to the treatment site. Carbon Dioxide-Carp will rapidly dissipate, be absorbed by aquatic plants and diluted immediately downstream of the application site. Dissolved oxygen will not be affected by the treatment.

Post-Treatment Water Use Restrictions

Because there are no residues, there are no restrictions on swimming, eating fish from treated waters, irrigation, or drinking water.

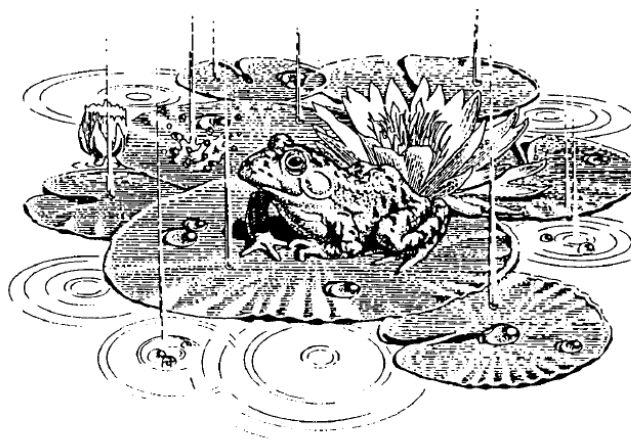
Herbicide Degradation, Persistence and Trace Contaminants

There are no residues. Persistence is minimal because plants will uptake the Carbon Dioxide-Carp, wave action, and dilution with the main channel of the river will return concentrations to background values.



Impacts on Fish and Other Aquatic Organisms

Carbon Dioxide-Carp is toxic to aquatic vertebrates and invertebrates. Fish and most other aquatic animals will avoid water enriched with Carbon Dioxide-Carp. Plants can use Carbon Dioxide-Carp in their normal metabolic processes. Directions for use must be strictly followed to minimize hazards to non-target organisms.



Human Health

Carbon dioxide is normally present in atmospheric air and there are minimal risks to humans. The major risk to human health is to the applicators if there is a leak in the infusion system or bulk storage tank. Carbon Dioxide-Carp will be stored in tanks but not in confined spaces. Carbon Dioxide-Carp can cause frost bite. No elevation in atmospheric CO₂ has been detected in areas adjacent to the infusion site in any trials thus far. Air monitoring devices will be used in and around storage areas to ensure applicator safety.

For Additional Information

Environmental Protection Agency
Office of Pesticide Programs
www.epa.gov/pesticides

Wisconsin Department of Agriculture, Trade,
and Consumer Protection
<http://datcp.wi.gov/Plants/Pesticides/>

Wisconsin Department of Natural Resources
<http://dnr.wi.gov/lakes/plants/>

Wisconsin Department of Health Services
<http://www.dhs.wisconsin.gov/>

National Pesticide Information Center
1-800-858-7378
<http://npic.orst.edu/>

