

# Bispyribac Sodium Chemical Fact Sheet

## Formulations

Bispyribac sodium was conditionally registered with the EPA for aquatic use in 2011. A conditional registration means that the manufacturer needs to complete additional testing or monitoring by a deadline (two years) in order for the product registration to continue. The active ingredient is sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate. Tradewind™ are the formulations registered for use in aquatic systems. It is used for large-scale or whole water body control of submerged, emergent and floating-leaf vegetation.

## Aquatic Use and Considerations

Bispyribac sodium is used to treat the invasive Eurasian watermilfoil (*Myriophyllum spicatum*) as well as hydrilla (*Hydrilla verticillata*), an invasive submerged plant not currently found in Wisconsin. Sago pondweed (*Stuckenia pectinata*), a desirable native species, may also be affected by treatment.

Bispyribac sodium is a systemic herbicide that moves throughout the plant tissue and works by interfering with production of a plant enzyme necessary for growth, acetolactate synthase (ALS). The concentration in the water column must be maintained for 60-90 days. Repeat treatments can be made if necessary to “bump” up the concentration to the desired levels.

Susceptible plants will stop growing soon after treatment and become reddish at the tips of the plant. Plant death and decomposition will occur gradually over several weeks to months. Bispyribac sodium should be applied in the spring to plants that are actively growing. If applied to mature plants, the effectiveness may be reduced.

A water body should not be treated with bispyribac sodium if there is an outlet, or in moving waters such as rivers or streams. If there is water movement at a treated site, higher concentrations

## Post-Treatment Water Use Restrictions

There are no restrictions on using treated water for drinking water, swimming, or eating fish. Treated water should not be used for livestock or irrigation until the concentration of bispyribac sodium in the water drops to at least one part per billion (ppb).



## Herbicide Degradation, Persistence and Trace Contaminants

Bispyribac sodium is broken down by microbes and has a half-life (the time it takes for half of the active ingredient to degrade) of 42-115 days.

The primary degradation product of bispyribac sodium is DesMe-2023 (sodium 2-(4,6 dimethoxypyrimidin-2-yl)oxy-6-(4-hydroxy-6-methoxypyrimidin-2-yl) benzoate. Four additional major degradates have been identified that occur when bispyribac is broken down in non-oxygenated water: DesMe-180, MeBA, Me<sub>2</sub>BA and 2,6-DBA.

Bispyribac sodium does not bind to soil, is moderately persistent, and somewhat mobile through the soil. Some evidence suggests that metabolite DesMe-2023 may be highly mobile in soils, more so than bispyribac sodium itself.



Leaching into groundwater is likely: lab test results submitted to EPA indicated that only 75%-80% of the parent and degradation products were measured in the water following treatment.

### Impacts on Fish and Other Aquatic Organisms

Testing indicates that the aquatic formulation of bispyribac sodium is practically non-toxic to fish and invertebrates. Species tested include trout, bluegill, minnows, oyster, shrimp and water fleas (*Daphnia* sp.). Bispyribac sodium is also practically non-toxic to both birds and mammals. Bispyribac sodium does not bioaccumulate.

None of the degradation products have been identified at this time to be of any toxicological concern.

### Human Health

The risk of acute exposure to bispyribac sodium would be primarily to chemical applicators. Minor eye and skin irritation are possible with contact. Bispyribac sodium can cause respiratory irritation upon exposure to high concentrations in the air. Persons who mix or apply bispyribac sodium should wear the

protective equipment recommended on the label (chemical resistant gloves).

Tests on bispyribac sodium do not indicate any evidence of birth defects, reproductive toxicity or genetic mutations in mammals. Bispyribac sodium is not metabolized by humans and, if ingested, is excreted intact.

### For Additional Information

Environmental Protection Agency  
Office of Pesticide Programs  
[www.epa.gov/pesticides](http://www.epa.gov/pesticides)

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

Wisconsin Department of Natural Resources  
608-266-2621  
<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/>

