



**Department of Environmental Quality
Water Resources Division**

**CHEMICALS APPROVED FOR USE UNDER
THE AQUATIC NUISANCE CONTROL STANDARD PERMITS**

The following list of chemicals is approved for use under Aquatic Nuisance Control Standard Permits. Each standard permit and approved treatment map(s) specifies the conditions of chemical treatment for a given waterbody. In order to be eligible for a Standard Permit, the waterbody and permit application must meet the criteria specified by the Michigan Department of Environmental Quality (DEQ). Additional products may be approved in the future, pending registration with the U.S. Environmental Protection Agency and the Michigan Department of Agriculture and Rural Development and satisfactory review by the DEQ.

Category: Algae Control

Table 1: Approved Chemicals for Algae Control under the Standard Permit

Active Ingredient	Brand Name and Maximum Application Rate
chelated copper	Airmax Algae Defense, Alligare 8% Copper, K-Tea, Symmetry NXG: <ul style="list-style-type: none"> • 0.7 gal/acre-foot (planktonic/filamentous algae) • 1.7 gal/acre-foot (macroalgae) Algi-Cure, Algimycin PWF: <ul style="list-style-type: none"> • 1.06 gal/acre-foot (planktonic/filamentous algae) • 2.13 gal/acre-foot (macroalgae) Alligare Argos, Captain, Captain XTR, Cutrine-Plus: <ul style="list-style-type: none"> • 0.6 gal/acre-foot (planktonic/filamentous algae) • 1.2 gal/acre-foot (macroalgae) Cutrine Plus Granular: 60.0 lbs/acre
chelated copper (with surfactant)	Cutrine Ultra: <ul style="list-style-type: none"> • 0.6 gal/acre-foot (planktonic/filamentous algae) • 1.2 gal/acre-foot (macroalgae)
copper sulfate	All approved products (unless specified below): <ul style="list-style-type: none"> • 2.6 lbs/acre-foot (planktonic/filamentous algae) • 4.4 lbs/acre-foot (macroalgae) Aquatrols, EarthTec: <ul style="list-style-type: none"> • 0.33 gal/acre-foot (planktonic algae) • 0.55 gal/acre-foot (filamentous algae/macroalgae) Formula F-30 Algae Control: 2.0 gal/acre foot SeClear: 6.4 gal/acre foot SeClear G: 18 lbs/acre-foot
endothall	Hydrothol 191: 2.2 pints/acre-foot Hydrothol Granular: 11.0 lbs/acre-foot
hydrogen dioxide	GreenClean Liquid 2.0: 2.4 - 24.0 gal/acre-foot
sodium carbonate peroxyhydrate	GreenClean Granular: <ul style="list-style-type: none"> • 17.0 lbs/acre-foot (maintenance) • 170.0 lbs/acre-foot (heavy growth) GreenClean PRO: <ul style="list-style-type: none"> • 10.0 lbs/acre-foot (maintenance) • 100.0 lbs/acre-foot (heavy growth) PAK 27, Phycomycin SCP Algaecide and Oxidizer: 100.0 lbs/acre-foot

Category: Submerged Plant Control

Table 2: Approved Chemicals for Submerged Plant Control under the Standard Permit

Active Ingredient	Brand Name and Maximum Application Rate
2,4-D – granular	Aquacide: 60.0 lbs/acre-foot Navigate: 56.8 lbs/acre-foot Sculpin G: 65.4 lbs/acre-foot
2,4-D and triclopyr	Renovate LZR Max, Renovate Max G: 93.7 lbs/acre-foot
carfentrazone	Stingray ^{1, 2} : 0.143 gal/acre-foot
chelated copper	Copper-EDA, Current, Harpoon, Komeen: 3.3 gal/acre-foot Nautique ¹ : 3.0 gal/acre-foot Harpoon Granular: 40-80 lbs/acre-foot of plant height Komeen Crystal: 7.7 – 15.5 lbs/acre-foot
diquat dibromide	Alligare Diquat ¹ , Dessicash ¹ , Harvester ¹ , Littora ¹ , Nufarm Diquat ¹ , Reward ¹ , Solera ¹ , Tribune ¹ , Tsunami ¹ , Ultra Pondweed Defense ¹ : 2.0 gal/acre Weedtrine D ¹ : 10.0 gal/acre
endothall	Aquathol K: 1.9 gal/acre-foot Aquathol Super K Granular: 13.2 lbs/acre-foot Hydrothol 191: 1.0 gal/acre Hydrothol Granular: 162.0 lbs/acre-foot
endothall and diquat dibromide	Aquastrike: 0.875 - 1.625 gal/acre-foot
florpyrauxifen-benzyl	ProcellaCOR EC ³ : 3.17- 79.25 oz/ac-ft (see product label)
flumioxazin	Clipper, Schooner: 2.1 lbs/acre-foot
imazamox	Clearcast ¹ : 173 oz/acre-foot
triclopyr	Navitrol ¹ , Renovate 3 ¹ : 2.3 gal/acre-foot Navitrol DPF, Renovate LZR, Renovate OTF: 67.0 lbs/acre-foot

Category: Floating/Emergent Plant Control

Table 3: Approved Chemicals for Floating/Emergent Plant Control under the Standard Permit

Active Ingredient	Brand Name and Maximum Application Rate
2,4-D – granular	Aquacide: 22.0 lbs/acre Navigate: 21.0 lbs/acre Sculpin G: 65.4 lbs/acre-foot
2,4-D and triclopyr	Renovate LZR Max, Renovate Max G: 93.7 lbs/acre-foot
diquat dibromide	Alligare Diquat ¹ , Dessicash ¹ , Harvester ¹ , Littora ¹ , Nufarm Diquat ¹ , Reward ¹ , Solera ¹ , Tribune ¹ , Tsunami ¹ , Ultra Pondweed Defense ¹ : 2.0 gal/acre Weedtrine D ¹ : 5 gal/acre
florpyrauxifen-benzyl	ProcellaCOR EC ³ : 15.85 – 31.7 oz/acre (see product label)
carfentrazone	Stingray ^{1,2} : contact SePRO or DEQ for recommended target species application rates
flumioxazin	Clipper, Schooner: 12.0 ounces/acre
glyphosate	Alligare Glyphosate 5.4 ¹ , Aqua Neat ¹ , AquaPro ¹ , AquaStar ¹ , Refuge ¹ , Rodeo ¹ , Roundup Custom for Aquatic and Terrestrial Use ¹ , Shoreline Defense ¹ , Shore-Klear ¹ : see product label for target species application rate
glyphosate (including surfactant)	GlyphoMate 41: 8.5 pints/acre ShoreKlear-Plus: 2.6 gal/acre
imazamox	Clearcast ¹ : 1.0 gal/acre
imazapyr	Alligare Ecomazapyr 2 SL ^{1,2} , Alligare Imazapyr 4 SL ^{1,2} , Arsenal ^{1,2} , Habitat ^{1,2} , Polaris AC Complete ^{1,2} , Polaris ^{1,2} : see product label for target species application rate
triclopyr	Navitrol ¹ , Renovate 3 ¹ : 8.0 quarts/acre Navitrol DPF, Renovate LZR, Renovate OTF: 67.0 lbs/acre

Category: Additives¹

Table 4: Approved Additives

Active Ingredient	Brand Name and Maximum Application Rate
n/a (adjuvants, sink/drift control)	AGRI-DEX: 4.0 pints/acre Aquasticker: 1-20 lbs/acre Cygnet Plus: <ul style="list-style-type: none"> • 2.5 pints/acre-foot (submergent) • 1.0 pint/acre (emergent) PolyAn: 1.0 gal/acre-foot PolyAn (emergent): 3-8 oz/100 gal spray solution TopFilm: 1.0 pint/acre
n/a (tracer dye/colorant)	All Approved Dye Products: <ul style="list-style-type: none"> • 0.01 gal/acre-foot (submergent) • 0.25 gal/acre-foot (submergent, restricted to ponds with surface area less than 10 acres and intermittent or no outflow) • 0.33 to 1.0 ounce per gallon concentrate (emergent)

¹ Certain herbicide labels require or strongly recommend the use of additives to aid herbicide uptake, improve effectiveness, and minimize non-target impacts.

² Certification requirements may apply. See the product label.

³ Prior to each treatment with ProcellaCOR, the “ProcellaCOR Treatment Notification” Schedule of Compliance (SOC) must be submitted in the MiWaters permitting database no less than two (2) weeks before the anticipated treatment date. The notification form will require an updated treatment map delineating the ProcellaCOR treatment area and the prescribed application rate (in ounces per acre-foot). Approval of the SOC by the DEQ is required prior to the treatment with ProcellaCOR.