



Department of Environmental Quality
Water Resources Division

**CHEMICALS APPROVED FOR USE UNDER
THE AQUATIC NUISANCE CONTROL GENERAL PERMIT FOR CANALS AND MARINAS
LOCATED ON THE GREAT LAKES AND CONNECTING WATERS**

The following list of chemicals is approved for use under the Aquatic Nuisance Control General Permit for Canals and Marinas located on the Great Lakes and connecting waters ANCG11-96, as amended. In order to have authorization to chemically treat waters of the state under the General Permit for Canals and Marinas, the permittee must be issued a 2012 Certificate of Coverage (COC) or COC Renewal 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 | Active Ingredient | Brand Name : Maximum Application Rate |
|-----------------|-----------------------------------|---|
| Algae Control | chelated copper | Airmax Algae Defense, K-Tea, Symmetry NXG: 0.7 gal/acre-foot (planktonic/filamentous algae) 1.7 gal/acre-foot (macroalgae) Algi-Cure, Algimycin PWF: 1.06 gal/acre-foot (planktonic/filamentous algae) 2.13 gal/acre-foot (macroalgae) Captain, Captain XTR, Cutrine-Plus: 0.6 gal/acre-foot (planktonic/filamentous algae) 1.2 gal/acre-foot (macroalgae) Cutrine Plus Granular: 60.0 lbs/acre Formula F-30 Algae Control: 2.0 gal/acre foot |
| | chelated copper (with surfactant) | Citrine Ultra: 0.6 gal/acre-foot (planktonic/filamentous algae) 1.2 gal/acre-foot (macroalgae) |
| | Copper sulfate | All approved products (unless specified below): 2.6 lbs/acre-foot (planktonic/filamentous algae) 4.4 lbs/acre-foot (macroalgae) EarthTec, Aquatrols: 0.33 gal/acre-foot (planktonic algae) 0.55 gal/acre-foot (filamentous algae/macroalgae) |
| | endothall | Hydrothol 191: 2.2 pints/acre-foot Hydrothol 191 Granular: 11.0 lbs/acre-foot |
| | hydrogen dioxide | GreenClean Liquid Broad Spectrum Algaecide/Bactericide: 1.2 – 30.0 gal/acre-foot |
| | sodium carbonate peroxyhydrate | GreenClean Granular: 17.0 lbs/acre-foot (maintenance) 170.0 lbs/acre-foot (heavy growth) GreenClean PRO: 9.0 lbs/acre-foot (maintenance) 90.0 lbs/acre-foot (heavy growth) Phycomycin SPC Algaecide and Oxidizer: 100.0 lbs/acre-foot |

(continued)

| Category | Active Ingredient | Brand Name : Maximum Application Rate |
|----------------------------------|---|---|
| Submerged Plant Control | 2,4-D – granular | Aquacide: 60.0 lbs/acre-foot Navigate (area basis label): 200.0 lbs/acre Navigate (volume basis label): 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 |
| | chelated copper | Copper-EDA, Current, Harpoon, Komeen, Airmax PondWeed Defense: 3.3 gal/acre-foot Nautique ¹ : 3.0 gal/acre-foot Harpoon Granular: 40-80 lbs/acre-foot of plant height |
| | diquat dibromide | Diquash ^{1,2} , Harvester ^{1,2} , Helm ^{1,2} , Knockout ^{1,2} , Littora ^{1,2} , Nufarm Diquat ^{1,2} , Redwing ^{1,2} , Reward ^{1,2} , Solera ^{1,2} , Tribune ^{1,2} , Tsunami ^{1,2} , Weedplex ^{1,2} : 2.0 gal/acre Weedtrine D ^{1,2} : 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 191 Granular: 162.0 pounds/acre-foot |
| | flumioxazin | Clipper: 2.1 lbs/acre-foot |
| | imazamox | Clearcast ¹ : 69.0 oz/acre-foot |
| | triclopyr | Navitrol ¹ , Renovate 3 ¹ : 2.3 gal/acre-foot Navitrol DPF, Renovate LZR, Renovate OTF: 67.0 pounds/acre-foot |
| Floating/ Emergent Plant Control | 2,4-D – granular | Aquacide: 22.0 lbs/acre Navigate (area basis label): 200.0 lbs/acre Navigate (volume basis label): 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 | Diquash ^{1,2} , Harvester ^{1,2} , Helm ^{1,2} , Knockout ^{1,2} , Littora ^{1,2} , Nufarm Diquat ^{1,2} , Redwing ^{1,2} , Reward ^{1,2} , Solera ^{1,2} , Tribune ^{1,2} , Tsunami ^{1,2} , Weedplex ^{1,2} : 2.0 gal/acre Weedtrine D ^{1,2} : 5 gal/acre |
| | flumioxazin | Clipper: 12.0 ounces/acre |
| | glyphosate | Accord ¹ , Aquamaster ¹ , Aqua Neat ¹ , AquaPro ¹ , Aqua Star ¹ , Avocet ¹ , Glyfos ¹ , Refuge ¹ , Rodeo 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 : 64.0 oz/acre |
| | imazapyr | AquaPier ^{1,2} , Gullwing ^{1,2} , Habitat ^{1,2} , Polaris AC Complete ^{1,2} , Polaris ^{1,2} : 6.0 pints/acre |
| triclopyr | Navitrol ¹ , Renovate 3 ¹ : 8.0 quarts/acre Navitrol DPF, Renovate LZR, Renovate OTF: 67.0 pounds/acre | |
| Additives ¹ | n/a (adjuvants, sink/drift control) | AGRI-DEX: 4.0 pints/acre Cygnet Plus: 2.5 pints/acre-foot (submergent) 1.0 pint/acre (emergent) PolyAn: 1.0 gal/acre-foot PolyAn (emergent): 3-9 oz/100 gal spray solution TopFilm: 1.0 pint/acre |
| | n/a (tracer dye/colorant) | All Approved Dye Products: 0.01 gal/acre-foot (submergent) 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.