



Water Resources Division
Aquatic Nuisance Control Program

**Chemicals Approved for Use
Under the Aquatic Nuisance Control General Permit
for Ponds**

The following list of chemicals is approved for use under Aquatic Nuisance Control (ANC) General Permit for Ponds **ANC97x0000**, as modified. To have authorization to chemically treat waters of the state under the General Permit for Ponds, the permittee must be issued a Certificate of Coverage (COC) by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). 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 EGLE.

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CATEGORY: ALGAE CONTROL

Table 1: Algae Control Chemicals Approved for Use Under the Pond General 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 and 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) EarthTec: <ul style="list-style-type: none"> • 0.33 gal/acre-foot (planktonic algae) • 0.55 gal/acre-foot (filamentous algae/macroalgae) Lake-Life: 0.33 – 5.5 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
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: <ul style="list-style-type: none"> • 100.0 lbs/acre-foot

CATEGORY: SUBMERGED PLANT GROWTH**Table 2: Submerged Plant Growth Control Chemicals Approved Under the Pond General 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 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: 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: 3.17- 79.25 oz/acre-foot (see product label)
flumioxazin	Alligare Flumigard, Clipper, Propeller, Schooner, Semera: 1.1 lbs/acre-foot Alligare Flumigard SC, Schooner SC, Semera SC: 1.1 pints/acre-foot
fluridone	SonarOne (see table below for submerged vegetation)
imazamox	Castaway ¹ , Clearcast ¹ , Top Deck ¹ : 173 oz/acre-foot
triclopyr	Navitrol ¹ , Renovate 3 ¹ : 2.3 gal/acre-foot Navitrol DPF, Renovate OTF: 67.0 lbs/acre-foot

CATEGORY: FLOATING/EMERGENT PLANT CONTROL**Table 3: Floating/Emergent Plant Control Chemicals Approved Under the Pond General 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 Max G: 93.7 lbs/acre-foot
carfentrazone	Stingray ^{1,2} : contact SePRO or EGLE for recommended target species application rates
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: 15.85 – 31.7 oz/acre (see product label)
flumioxazin	Alligare Flumigard, Clipper, Propeller, Schooner, Semera: 12.0 ounces/acre Alligare Flumigard SC, Schooner SC, Semera SC: 12.0 oz/acre
fluridone	Sonar Genesis (see table below for duckweed and watermeal)
glyphosate	Alligare Glyphosate 5.4 ¹ , Aqua Neat ¹ , AquaPro ¹ , AquaStar 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	Castaway ¹ , Clearcast ¹ , Top Deck ¹ : 128 oz/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 qt/acre Navitrol DPF, Renovate OTF: 67.0 lbs/acre Garlon 3A (woody species only, see product label): 8.0 qts/acre

CATEGORY: ADDITIVES¹

Table 4: Additives Approved for Use Under the Pond General Permit

ACTIVE INGREDIENT	BRAND NAME AND MAXIMUM APPLICATION RATE
<p>n/a (adjuvants, sink/drift control)</p>	<p>AGRI-DEX: 4.0 pints/acre AMP Activator: 0.5 gal/acre-foot Aquasticker: 1-20 lbs/acre Cygnet Plus: • 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</p>
<p>n/a (water dyes/colorants)</p>	<p>All Approved Dye Products: • gal/acre-foot (submergent tracer) • 0.25 gal/acre-foot or as directed by label (submergent whole pond) • 0.33 to 1.0 oz/gal concentrate (emergent tracer)</p>

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.

CATEGORY: SonarOne Use in COC-Eligible Ponds

Table 5: Use of SonarOne in COC-Eligible Ponds for the Management of Submerged Aquatic Vegetation

POND DISCHARGE CATEGORY ¹	ESTIMATED RETENTION TIME ²	PER TREATMENT PPB	MAXIMUM NUMBER OF TREATMENTS PER MONTH	MAXIMUM NUMBER OF MONTHS TREATED ³	MAXIMUM NUMBER OF TREATMENTS PER SEASON	ESTIMATED RANGE OF SEASONAL TOTAL PPB (SEASONAL MAX IN PARENTHESIS) ⁴
Low discharge, high retention	30 days or greater	10 - 15	1	3	3	20 - 40 (45) (e.g., 2 10-ppb or 2 15-ppb + 1 10-ppb)
Medium discharge, medium retention	20 - 29 days	10 - 15	2	3	6	30 - 50 (90) (e.g., 2 15-ppb or 5 10-ppb)
High discharge, low retention	10 - 19 days	10 - 20	2	3	6	40 - 60 (90) (e.g., 2 20-ppb or 6 10-ppb)

¹ For ponds with less than 10-day retention, utilize alternate herbicide management strategy with contact or systemic products that have shorter exposure time requirements.

² Include the assessment of outlet structure and estimates and calculations for water volume, outlet flow, and retention time in treatment records.

³ The total period for SonarOne applications is three months or 90 days. The last SonarOne treatment of a season must occur to a COC pond within three months (or 90 days) following the first application made to the site. For example, if the first application is made May 15, the final application of the season must occur no later than August 13 (90 days).

⁴ The sum of all applications in a waterbody shall not exceed 90 ppb per annual growth cycle.

CATEGORY: Use of Sonar Genesis in COC-Eligible Ponds

Table 5: Use of Sonar Genesis in COC-Eligible Ponds for the Management of Duckweed and Watermeal

Target floating species	Estimated retention time ¹	Per treatment ppb ²	Maximum number of treatments per month	Maximum number of months treated	Maximum number of treatments per season	Estimated range of seasonal total ppb with seasonal maximum in parentheses ³
Duckweed (<i>Lemna</i> and other similar species)	30 days or greater	15 - 30	1	3	3	30 - 60 (90) (e.g., 2 15-ppb, 2 30-ppb, or 1 30-ppb + 2 15-ppb)
Watermeal (<i>Wolffia</i> spp.)	30 days or greater	30 - 45	1	3	3	60 - 90 (90) (e.g., 2 45-ppb or 3 30-ppb)

¹ For ponds with less than 30-day retention, utilize an alternate herbicide management strategy with shorter exposure time requirements. Include the assessment of outlet structure and estimates and calculations for water volume, outlet flow, and retention time in treatment records.

² Higher rates in range should be used for more difficult treatment conditions, such as dense growth and shallow water. Watermeal is typically treated at the 45 ppb rate.

³ The sum of all applications in a waterbody shall not exceed 90 ppb per annual growth cycle.