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To: [Hamel, Kathy \(ECY\)](#)
Cc: gerald.adrian@uniphos.com
Subject: NPDES comments
Date: Friday, October 15, 2010 5:29:43 AM

Ms. Hamel,

The following are the comments of United Phosphorus, Inc. regarding the current General NPDES permit for aquatic application of herbicides and algicides for control and eradication projects in the State of Washington.

Subject to Fish Timing Windows:

The restriction on fish timing windows should be removed for all endothall products. The endothall dipotassium salt (i.e. Aquathol K) is considered practically non-toxic to freshwater and marine fish and invertebrates by the US EPA. Aquathol K, containing 29.5% endothall as the active ingredient, was evaluated in aquatic toxicity studies in freshwater and marine fish and invertebrates. Aquathol K concentrations in these studies were determined by calculation from measured endothall concentrations. In the USEPA data evaluation records (DERs) for these studies, the Agency presented LC50/EC50 values for both the formulated product and endothall. The study results are summarized as follows:

Species	Aquathol K LC50/EC50 (ppm)	As endothall LC50/EC50 (ppm)	MRID
Bluegill sunfish	594	316	42695401
Rainbow trout	370	107	42695402
Daphnia magna	240	71	42695403
Sheepshead minnow	340	72	42695405
Mysid shrimp	257	79	42695406
Oyster	330	117	42695404

Aquatic LC50/EC50 values >100 ppm are considered as practically nontoxic. This classification was verified in the DERs for all species except for the sheepshead minnow which apparently classified as slightly toxic on the basis of the LC50 for endothall. However, the LC50 for the dipotassium salt of endothall in the sheepshead minnow clearly exceeds the 100 ppm trigger and should also be considered practically nontoxic in this specie. This product is "practically nontoxic" to fish and aquatic invertebrates as noted by the EPA reviewers.

Although the amine formulation (i.e. Hydrothol 191) is more toxic to aquatic species, the amine formulation is only allowed to be used at rates (0.2 ppm) that are non-toxic to fish (toxicity seen at >0.3 ppm).

The current fish timing window hinders the use of endothall in applications that should be made early in the season for optimal efficacy as well as the

use of lower rates, particularly Aquathol.

Restrictions/Advisories:

The EPA has previously determined that no swimming restriction is necessary for endothall applications. If Washington Department of Health deems a swimming restriction necessary, the swimming restriction should be worded to limit swimming to "next day" rather than 24 hours. The Aquathol K and Hydrothol 191 products are both highly soluble in water and are thoroughly mixed within a few hours of the application.

UPI appreciates this opportunity to comment.

Kind Regards,
Tim

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