

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Standards for Use of Chemical Additives for Sediment Control

In order to be authorized by MDE to use any chemical additives for sediment control, you must provide information regarding the proposed use as well as conclusive data showing that, if used as proposed, the agent is not toxic to aquatic life. Section I of this document outlined specific information that must be submitted in order to provide enough information to demonstrate that the proposed use of treatment chemicals will not lead to a violation of water quality standards.

This document is intended to provide instructions and minimum permit requirements for operators requesting permission to use chemical additives for sediment control at a site.

Upon request and approval, you will be authorized to use the approved chemicals, provided you comply with the requirements in Part II.1 of this document, any permit-specific requirements outlined in the permit you have registered under, and any additional site-specific requirements MDE considers necessary to be protective of surface water quality.

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I. Instructions for Requesting Approval for Use of Chemical Additives

The Department regards the use of chemical additives as a last resort for control of sediment in discharges. Operators must evaluate the use of any and all applicable conventional erosion and sediment controls and adhere to all requirements for soil stabilization prior to considering the use of chemical additives.

1. Step 1 – Compose Additional PPP/SWPPP Documentation

Each permit with potential to authorize chemical additives require the registrant to complete and maintain either a Pollution Prevention Plan (PPP) or Stormwater Pollution Prevention Plan (SWPPP) - defined as such depending on the type of water being discharged.

In addition to the requirements of the PPP/SWPPP which are applicable for all operators under each respective permit, the use of chemical additives requires supplementing the PPP/SWPPP with the following additional supporting information. You should also consult the applicable section(s) of your particular permit to determine permit-specific requirements for PPP/SWPPP contents, in addition to the information in this section. Per permit terms, the PPP/SWPPP must be made available at any time upon request of Department personnel.

a. Basis for Use of Chemical Additives

- i. An explanation of why the use of chemical additives is necessary at your site including details regarding other erosion and sediment controls which have been or could be instituted and justification as to why they have been determined to be insufficient; and
- ii. Information to support why the particular chemicals chosen are appropriate for use in light of the specific soils present at your site and the background levels of pH and turbidity in the receiving water(s). Background pH and turbidity levels are considered, for the purposes of this permit, to be based on the levels found in the receiving water during dry weather conditions.

b. Specific Additive Information

- i. A listing of all additives to be used at your site, any individual chemical constituents which comprise them, and whether they are on the Department's pre-approved list (found online at <https://mdewwp.page.link/MDFlocs>)¹;
- ii. Proposed dosing or application rates for each additive listed;
- iii. Copies of Safety Data Sheets (SDS) for each additive to be used at your site;
- iv. Manufacturer specifications regarding the use or recommended dosage levels for each chemical to be used at your site;
- v. Jar test results for each additive to be used at your site which supports the proposed dosing/application rate; and
- vi. For cationic chemical additive or additives not on the Department's pre-approved list: Aquatic toxicity data for each additive (or individual chemical constituent, where applicable) to be used at your site. This should include data provided by the supplier/provider of the additive and/or additional testing which you have completed. You must also submit any other pertinent product information that will assist the Maryland Department of the Environment (MDE) in evaluating the proposed use of the listed additives.

¹ If additives are not on the pre-approved list, consult the Department's *Procedures for Review of Chemical Additives for Sediment Control* (<https://mdewwp.page.link/ChemAddStandards>) for instructions on how to apply for approval

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c. Site Map

Include a map with the following information related to your use of treatment additives:

- i. Locations where treatment additives will be applied and stored on site;
- ii. Point(s) of discharge;
- iii. Areas of earth disturbance; and
- iv. Soil types.

d. Schematic Drawings

Include schematic drawings showing the design of the chemical treatment systems (*e.g., chitosan-enhanced sand infiltration system, passive treatment systems*) to be used at the site.

e. Responsible Personnel

Include a list of personnel who will be responsible for operating the chemical treatment systems, application of the additives, and for compliance with any permit requirements specific to additives to be used at your site. Cite the training that the personnel have received in operation and maintenance of the treatment system(s) and use of the specific additive(s) proposed.

f. Sampling and Record Keeping Schedules

The PPP/SWPPP must maintain updated estimates for timeframe (*e.g. start dates, end dates, phases of construction*) during which additive use is anticipated. If specific dates are not available at the time of submitting your NOI, you must provide as much information as possible upon initial completion of PPP/SWPPP document followed by making timely updates as the schedule develops.

The PPP/SWPPP should be completed no later than the date that you submit your NOI. Depending on the specific permit requirements, you may be required to submit the entire PPP/SWPPP or the portion of the PPP/SWPPP which addresses additive use along with the Notice of Intent NOI. Consult the language of your particular permit to determine specific submission requirements. Failure to provide all required information could result in a delay in processing your request or in rejecting your NOI and requiring that a new NOI be submitted once you have satisfactorily submitted all required documentation.

Note that if you have been approved for use of chemical additives under a permit, the authorization is limited to the additives you had notified MDE you intended to use. If after such approval, you decide that a new additive or a new or modified chemical treatment system is needed, you must re-apply for authorization to use the new additive/systems at your site.

2. Step 2 – Submit Request to Use Cationic Chemical Additives Form

If you are requesting authorization to use cationic chemical additives, you must complete this additional form (<https://mdewwp.page.link/CationicForm>) and it must be signed by a signatory in the same manner as a Notice of Intent. See the specific language for the permit you are applying for to determine who qualifies as an eligible signatory. Per the form instructions, you must attach the portion of your PPP/SWPPP which addresses the use of chemical additives upon submission of your request for approval.

3. Step 3 – Submit Notice of Intent

Follow the instructions of your specific permit regarding how to complete the Notice of Intent (NOI) and apply for coverage. All permit NOIs will require you to identify any chemical additives you are proposing to use for sediment control. If you are proposing to use cationic chemical additives, you must submit the *Request to Use Cationic Chemical Additives* form and any applicable attachment for that form.

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Note: If you wish to add the ability to use chemical additives for sediment control to a current permit registration or if you wish to change the additives you have already been approved for under a current permit, you are not authorized to use the new additives until you have completed the applicable portions of Steps 1 and 2 above, submitted a revised NOI (and PPP/SWPPP attachment if applicable), and received written approval from MDE. You must also update your PPP/SWPPP to reflect any changes.

II. Permit Requirements Applicable to the Use of Chemical Additives

If you are approved for the use of chemical additives for sediment control, you will be subject minimum requirements applicable to the use of any treatment chemical and may also be subject to additional case-by-case requirements as well. In addition to the requirements presented in this document, you should consult the language of your particular permit and/or registration letter to ensure permit compliance.

1. Minimum Permit Requirements

- a. Maximize use of conventional pretreatment controls and ensure adherence to all stabilization requirements so that amount of chemical additive used is minimized;
- b. Select appropriate chemical additives for your project based on soil types;
- c. Store additives in leak-proof containers kept under storm-resistant cover;
- d. Comply with applicable state/local requirements;
- e. Apply additives and operate treatment systems in accordance with manufacturer specifications related to water quality;
- f. Ensure personnel have received product-specific training;
- g. Document in PPP/SWPPP all additives to be used, treatment systems, location where all chemicals will be applied and stored;
- h. Discharges must contain no detectable levels of cationic chemicals. Residual testing will be required for chitosan within 1st hour of chemical use and every four hours thereafter; and
- i. Comply with all visual monitoring requirements specified in your permit.

2. Additional Permit Requirements

In addition, on a case-by-case basis, MDE may determine that it is necessary for you to comply with additional site-specific or additive-specific requirements. Examples of the types of requirements that you may be subject to include, but are not limited to, the following:

- Specific training requirements geared towards specific chemical additives to be used;
- Specific inspection requirements related to the locations where additives are used and stored;
- Maximum dosage rates based on jar test information submitted, other state NPDES permit requirements, and/or manufacturer information;
- Requirement to periodically recalculate the optimal dosage rate based on influent and effluent monitoring of pH and turbidity;
- Requirements related to the use of specific conventional pretreatment controls;
- Aquatic toxicity testing and applicable reporting, recordkeeping, and corrective action requirements; and
- Residual chemical testing and applicable reporting, recordkeeping, and corrective action requirements.