**Summary of Evaluation**

Permit Number of Site (if applicable): WI\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name(s) of Additives/Product(s)\* to be reviewed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please provide a brief overview of the referenced additive(s), the targeted contaminates, and the proposed remediation process:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# FOR THE BELOW, provide direct responses to each of the following items (using attached pages is acceptable). Failure to do so may result in denial of approval.

# Required General Information

1. Current or future use of site with site contact person, address (including physical address of site, if applicable), email address, and phone number.
2. Contractor applying the product, contact person name, address, email address, and phone number for the contractor.
3. Distance and likelihood of impact to public or private water supply wells. Is the area proposed for remediation served by a public water supply utility? If the request is not site-specific, provide evidence showing the potential extent of impacts from injection of this product. Verification must be provided by the appropriate Regional Office of the Division of Water Resources (DWR) Public Water Supply Section.
4. General description of the contaminants, if present, in the soil and/or groundwater at the site. If the contaminants are unknown, list the contaminants for which the product is intended to remediate.
5. Name, approximate distance, and likelihood of impact to the nearest surface water body to the site.
6. Approximate distance to nearest residence(s) and workplace(s).

# Required Product/Process-Specific Information

1. Product manufacturer name, address, phone number, and contact person’s phone and email address.
2. Genus/species/strain of microorganism(s) contained in product.
3. Identity of specific ingredients\* (including CAS#) and concentrations of ingredients contained in the product and purpose of each specified ingredient.
4. Documentation from authoritative technical that references the contaminants or class of contaminants the microorganism(s) can remediate. Provide a brief summary of the mechanism in which the microorganism(s) will remediate these contaminants, listing degradation products and byproducts of remediation.
5. Documentation from authoritative technical references (i.e., Bergey’s Manual of Systematic Bacteriology, Bergey’s Manual of Determinative Bacteriology or other existing references) that the microorganisms are not pathogenic to animals or humans. (Provide a brief summary of the referenced material as well as a copy of the referenced material.)
6. Documentation from authoritative technical references of the toxicity of specific ingredients, other injectants (if applicable), byproducts of remediation, and degradation products in soil and groundwater. Be specific to toxic endpoints that are relevant to public health (provide a brief summary of the referenced material as well as a copy of the referenced material).
7. Documentation from authoritative technical references that the microorganism(s) are naturally-occurring in the immediate or similar environment. (Provide a brief summary of the referenced material as well as a copy of the referenced material.) If the request is not site-specific, provide documentation on the natural environments of these microorganisms.
8. Documentation from authoritative technical references on how these microorganism(s) interact with naturally occurring microorganisms in the environment.
9. Documentation from authoritative technical references on the lifecycle of these microorganism(s) and under what nutrient and environmental conditions these microorganism(s) exist in lag phase, log (exponential phase), stationary phase and death phase. Indicate which phase represents the optimal remediation conditions.
10. Documentation from authoritative technical references on what additional injectants are anticipated to be injected with these microorganism(s). Please provide specific ingredients of these injectants.
11. Documentation from authoritative technical references of specific degradation products expected, and other injectants (if applicable) and byproducts of remediation.  If degradation products are unknown, list the degradation products for the contaminants for which the injectant is intended to remediate.
12. Documentation from authoritative technical references of expected migratory potential of microorganisms and other injectants (if applicable), and byproducts of remediation and degradation products in soil and groundwater.  Be specific to the conditions in which migration will occur.
13. Documentation from authoritative technical references regarding how the natural hydrogeological conditions will be impacted. Be specific to naturally occurring inorganic compounds that may be influenced by the use of this product. (For example, will naturally occurring inorganics be mobilized within the groundwater system?)
14. Complete description of the use of the product at the site (e.g., application of the product to soil and/or groundwater, aeration of soil. Procedures needed to maintain growth and chemical degradation).
15. Approximate concentration of each ingredient following release into soil or groundwater.
16. Approximate distance and direction of travel for product in groundwater, the groundwater concentration of each ingredient at this distance, and distance from this point to the nearest drinking water source (that is currently used for drinking purposes). These should be reasonably accurate estimates based on best available information and calculations (modeling, if necessary) regarding aquifer characteristics and flowpaths at the site; where uncertainty exists in critical aquifer parameters (e.g., effective porosity), conservative assumption should be made in estimating these values so that worst-case predictions of travel distances are made. If the request is not site-specific, provide evidence showing the potential extent of impacts from injection of this product and under what conditions that they occurred (i.e. reports from use at other sites this product has been used for the purposes of remediation).
17. Approximate groundwater concentration of each ingredient after pumping or recovery (if applicable).
18. If the product is expected to discharge to a nearby surface water, approximate concentrations of product in the water.

Send an electronic copy of the risk assessment package, along with any other relevant documentation including MSDS sheets and product information, which would aid in the assessment of the safety of the product for use in the remediation of contaminated groundwater in North Carolina to the UIC Program contact persons below:

**Michael Rogers, UIC Program Manager**

**Michael.Rogers@ncdenr.gov**

**AND**

**Shristi.Shrestha, Hydrogeologist**

**Shristi.Shrestha@ncdenr.gov**

\*If the composition of the proposed injected fluid is considered a trade secret and needs to be treated as confidential, please submit the confidential information clearly labeled as confidential. In addition, include a letter identifying the confidential information and stating why the information should be processed as confidential. All information warranting protection as a trade secret will be handled in accordance with G.S. 132-1.2. and 15A NCAC 2C .0211(g).