June 3, 2010

Dear <Salutation>: 

Pursuant to Article 8, Subchapter 1, Chapter 2, Division 6 of Title 3 of the California Code of Regulation, the Director of the Department of Pesticide Regulation (DPR) notices her decision to begin a reevaluation of pesticide products containing the active ingredients copper oxide, copper hydroxide and cuprous thiocyanate and intended for use as antifouling paint (AFP) pesticides on boat and ship hulls, including the following products:

<table>
<thead>
<tr>
<th>Product Brand Name, EPA Reg. No.</th>
<th>Active Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Blue, EPA Reg. No. 123-45-AA-6789</td>
<td>COPPER OXIDE (OUS)</td>
</tr>
<tr>
<td>Product Red, EPA Reg. No. 456-12-AA-3479</td>
<td>COPPER HYDROXIDE</td>
</tr>
<tr>
<td>Product Black, EPA Reg. No. 7890-67-AA-1234</td>
<td>CUPROUS THIOCYANATE</td>
</tr>
</tbody>
</table>

DPR is required to investigate all reported pesticide episodes and information received indicating that a pesticide may have caused, or is likely to cause, a significant adverse impact. If the Director finds from the investigation that a significant adverse effect has occurred or is likely to occur; the pesticide involved shall be reevaluated. Therefore, copper based AFP pesticides, including the above products, are being reevaluated.

**BASIS FOR REEVALUATION**

Copper AFP pesticides are used in the form of a paint to protect against the accumulation of barnacles, etc. on the underwater surfaces of boats and ships. DPR initiates this reevaluation based on findings from a June 2009 DPR report titled, “Monitoring for Indicators of Antifouling Paint Pollution in California Marinas.” The report indicates that dissolved copper concentrations in more than half the water samples taken from salt and brackish water marinas exceeded the California Toxics Rule (CTR) chronic water quality standard for copper. Dissolved copper concentrations in about a third of the water samples in these marinas also exceeded the acute standard. Several other marina surveys of Southern California coastal marinas produced similar findings.
In the DPR study, toxicity was also observed in a number of marina water samples. Tests indicated that copper was the likely cause of the toxicity. Since California Regional Water Quality Control Boards’ (RWQCBs) water quality control plans require that all waters be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life, this toxicity violates RWQCBs water quality objective for toxicity.

DPR’s report concluded that in salt and brackish water marinas, copper AFP pesticide products applied to boat hulls are likely a major source of copper in these areas, particularly during dry-weather periods. Passive leaching of AFP-painted boat hulls and underwater boat-hull cleaning appear to be the main pathways of copper contamination.

**REEVALUATION DATA REQUIREMENTS**

Pursuant to this reevaluation, <COMPANY> is required to submit the following:

1. **Compliance Proposal and Identification of Existing Information**

   Within **90 days** from the date of this letter, submit a written response that includes:

   a. A statement of how you intend to comply with the reevaluation data requirements for copper based AFPs (e.g., as a sole entity or through the formation of a Task Force);
   b. Identification of existing data to which you have access that meets the data requirements as outlined in Items III and VI of this letter;
   c. Identification of the type of paint product (e.g., epoxy ester conventional, vinyl conventional, water-based ablative, copolymer ablative) for each product listed above; and
   d. Any questions or clarifying information you need to comply with these data requirements.

   **Please note:** If you wish to rely upon the data to be submitted by a Task Force (Item a), you must within the 90-day timeframe provide DPR with the following information:

   1) The name of the Task Force;
   2) A signed statement from the Task Force indicating that it intends to comply with DPR’s reevaluation data requirements;
   3) Identification of the members of the Task Force; and
   4) The name of one or two contact people that are authorized to speak with DPR on behalf of the Task Force.
When identifying data pursuant to Item (b) above, please provide a summary of the data, including:

a. Study title, purpose, and explanation of applicability to the data requirement;
b. An abstract, which includes a description of methodologies and a summary of study results; and
c. Information on the availability of the raw data.

When identifying the type of paint for each of your product(s) included in the reevaluation (Item c above), please complete and submit the attached “Suggested Response Sheet for the Antifoulant Paint (AFP) Reevaluation” following the directions on the document. (Attachment A)

II. Submission of Existing Data

Within 120 days from the date of this letter, submit copies of existing studies that you identified above and that may be relevant to the reevaluation data requirements as outlined in Items III and IV.

III. Submission of Release Rate Data

Within 150 days from the date of this letter, submit release rate data on each product included in the reevaluation. This data must be generated using either 1) American Society for Testing Method (ASTM) - Organotin Release Rates of Antifouling Coating Systems in Sea Water (ASTM D5108-90); or 2) ASTM Test Method - Standard Test Method for Determination of Copper Release Rate from Antifouling Coatings in Substitute Ocean Water (ASTM D6442-06). If using a different method, submit protocol and obtain DPR approval before beginning the study.

IV. Submission of Mitigation Proposal

Within 180 days from the date of this letter, identify and submit specific mitigation strategies on pesticide use or reformulation that will reduce dissolved copper concentrations in California salt and brackish water marinas to levels below CTR or regionally applicable standards. Each proposed strategy must be supported by scientific data that demonstrate its effectiveness in reducing dissolved copper concentrations in marina waters.

After mitigation strategies have been submitted, DPR will work with registrants to determine their implementation. DPR will then establish additional timelines for registrants to begin monitoring marina waters to determine compliance with CTR standards.
All studies and protocols submitted to DPR must be formatted in accordance with CA Notice 2006-06, Format Guidelines for Data Submitted to Support Pesticide Product Registrations in California. This Notice is located on DPR’s Web site at <http://www.cdpr.ca.gov/docs/canot/CA2006-06.pdf>.

GENERAL INFORMATION

Upon request, DPR staff will meet with data generators to discuss compliance with the above requirements.

Please note that pursuant to Food and Agricultural Code section 12811.5, as revised January 1, 2006, any registrant that does not submit its own data to fulfill a data requirement imposed by the Director to maintain the registration of its pesticide product, and instead relies upon data owned by another company, should be aware that they may have certain obligations, in specifically defined situations, to the owner of the data. For further information, please refer to DPR’s AB 1011 – Consolidated Resources Web site at <http://www.cdpr.ca.gov/docs/legbills/ab1011/resource.htm>.

Failure of a registrant to comply with the requirements of this reevaluation, may subject that registrant’s product(s) to cancellation pursuant to Food and Agricultural Code section 12825(h).

MAILING ADDRESS

Please address all correspondence regarding this reevaluation as follows:

Copper Antifouling Paint Reevaluation
Attn: Richard Spas
Department of Pesticide Regulation
1001 I Street, P.O. Box 4015
Sacramento, California 95812-4015
CONTACTS

For information regarding the reevaluation process, please contact either Mr. Richard Spas, by e-mail at <rspas@cdpr.ca.gov> or by telephone at (916) 322-9522 or Ms. Denise Alder, by email at <dalder@cdpr.ca.gov> or by telephone at (916) 324-3522. For questions regarding data requirements and mitigation strategies, please contact Mr. Nan Singhasemanon by email at <nsinghasemanon@cdpr.ca.gov> or by telephone at (916) 324-4122.

Sincerely,

Original signed by

Ann M. Prichard, Chief
Pesticide Registration Branch
916-324-3931

cc: Mr. Nan Singhasemanon, Staff Environmental Scientist
Ms. Denise Alder, Staff Environmental Scientist
Mr. Richard Spas, Environmental Scientist
Identify the paint type for each product identified below.

<table>
<thead>
<tr>
<th>Paint Type Qualifier</th>
<th>Paint Type</th>
<th>Antifouling Method</th>
<th>Environmental Considerations</th>
<th>Durability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Soft Sloughing</td>
<td>Free leaching &amp; soft. Paint erodes until completely disintegrated. 20-50% copper</td>
<td>Potential to release much toxicant due to uncontrolled sloughing</td>
<td>1 year or less</td>
</tr>
<tr>
<td>B</td>
<td>Epoxy Ester, Conventional</td>
<td>Hard, smooth finish. Releases toxicant by leaching. Up to 76% copper</td>
<td>Initial high release of toxicant, replaced by even copper leaching</td>
<td>approx. 2 years</td>
</tr>
<tr>
<td>C</td>
<td>Vinyl, Conventional</td>
<td>Hard, smooth finish. Releases toxicant by leaching. 40-67% copper</td>
<td>Better controlled release rate of copper vs. epoxy ester paint</td>
<td>approx. 2 years</td>
</tr>
<tr>
<td>D</td>
<td>Vinyl, Thin Film Teflon</td>
<td>Hard, smooth finish. Releases copper by leaching. 42% copper</td>
<td>Controlled leach rate of copper. Very hard finish</td>
<td>1-1.5 years</td>
</tr>
<tr>
<td>E</td>
<td>Copolymer, Ablative</td>
<td>Continuously sheds outer layer to release toxicant 46-58% copper</td>
<td>Boat use &amp; underwater cleaning release toxicant</td>
<td>2 years Does not oxidize in air</td>
</tr>
<tr>
<td>F</td>
<td>Water-based, Ablative</td>
<td>Continuously sheds outer layer to release toxicant Up to 64% copper</td>
<td>Boat use &amp; underwater cleaning release toxicant</td>
<td>approx. 2 years</td>
</tr>
</tbody>
</table>

Hull paint selection factors courtesy of University of California Davis. Additional information at <http://seagrant.ucdavis.edu/selpaint.htm>

The following products have been identified to contain one or more active ingredients in the AFP reevaluation.

Please identify each individual paint listed below to the above paint type qualifier.

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<tr>
<th>Product Name</th>
<th>EPA Reg. No.</th>
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Mail to: Antifoulant Paint Reevaluation
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