UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 4 1995

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dr. James Russell
Special Consultant to the
Pulp Chemicals Association, Inc.
2938 Jenks Avenue
Panama City, Florida 32405

Dear Jim:

On behalf of the Pulp Chemicals Association (PCA), you sent a letter to the Environmental Protection Agency (EPA) on April 25, 1994, requesting the Agency to review the representation of a group of substances, known as dimer acids and their derivatives, on the Toxic Substances Control Act (TSCA) Chemical Substance Inventory. Following EPA's receipt of your letter, several meetings were held between EPA and PCA to discuss the issues related to this matter. This letter summarizes EPA's position regarding the Inventory representation of these substances.

As you correctly pointed out in your April 25, 1994 letter, diner acids and their derivatives are currently represented on the TSCA Inventory in six possible ways. The six different Inventory representations for dimer acids are as follows:

(1). Fatty acids, C_{18}-unsaturated, dimers
(CAS Registry No. 61788-89-4)

(2). Fatty acids, tall-oil, dimers
(CAS Registry No. 73138-53-1)

(3). Fatty acids, tall-oil, polymerized
(CAS Registry No. 73138-54-2)

(4). Fatty acids, C_{18}-unsaturated, polymerized
(CAS Registry No. 71808-44-1)

(5). Fatty acids, C_{16-18} and C_{18}-unsaturated, dimerized
(CAS Registry No. 71808-39-4)

(6). 9,12-Octadecadienoic acid (Z,Z)-, dimer
(CAS Registry No. 6144-28-1)

Please note that derivatives of these six substances are named for the Inventory according to the corresponding dimer acids.

Your April 25, 1994 letter indicated that the aforementioned six chemical descriptions have been loosely used to represent crude, conventional, and pure dimer acids. Unsaturated fatty acids can be dimerized by acid clay catalysis, by free radical catalysis, or by thermal treatment, with acid clay catalysis being the preferred process. Crude dimer acid, which contains approximately 55% C_{36} dimer acids, 35% C_{18} monomer acids, and 10% C_{54} trimer acids, is produced by heating predominantly C_{18}-unsaturated fatty acids such as tall oil fatty acids with the acid clay catalyst to a temperature of between 200° to 250°C. After the monomer acid is removed by distillation, the bottom product, composed primarily of C_{36} and C_{54} acids, constitutes conventional dimer acids. Further removal of trimer acids as a residue from vacuum distillation would yield pure dimer acids.

You pointed out in your letter that, although the yields of dimer acids from various fatty acid sources will depend on the level of C_{18}-unsaturated fatty acids present in the source material, the species of dimer acids in the final product are the same. You requested that one Inventory listing, i.e., Fatty acids, C_{18}-unsaturated, dimers (CAS Registry No. 61788-89-4), be used to represent all three types of dimer acids, i.e., crude, conventional, and pure, regardless of fatty acid source used and dimer acid content in the final product.

After reviewing PCA's proposal and discussing the issues with you and other PCA representatives, I am pleased to inform you that EPA largely agrees with PCA's recommendation that one Inventory listing, i.e., Fatty acids, C_{18}-unsaturated, dimers, be used to represent all three types of dimer acids regardless of the source of the starting fatty acid and the content of dimer acid in the final product.

Specifically, when crude dimer acid is directly sold or used as a lower purity dimer acid where no distillation of the crude material is involved, all three types of dimer acids, i.e., crude, conventional, and pure, are considered to be identical for purposes of the Inventory and are described as "Fatty acids, C_{18}-unsaturated, dimers" (CAS Registry No. 61788-89-4). However, when crude dimer acid is sold or used as a crude intermediate in the production of monomer acid and conventional dimer acid, it can no longer be considered identical to either conventional dimer acid or pure dimer acid. In this case, the crude dimer acid should be represented as "Fatty acids, C_{16-18} and C_{18}-unsaturated, dimerized" (CAS Registry No. 71808-39-4). The only exception is that when crude dimer acid is produced from oleic acid and/or linoleic acid, the three types of dimer acids thus produced are considered identical regardless of whether or not any distillation has been carried out on the crude dimer acid.

Accordingly, the six aforementioned chemical descriptions for dimer acids themselves would be consolidated into potentially two descriptions, i.e., (1) and (5). Whether (1) or (5) should be used would depend on whether the crude dimer acid produced is to be

distilled for monomer acid isolation. The chemical derivatives made from these six dimer acid descriptions would be renamed according to the conventional dimer acid description, i.e., (1).

As you correctly pointed out in your letter of February 13, 1995, implementation of the above-discussed changes could be rather resource intensive. Your February 22, 1995 letter requested that EPA consider a simplified approach to correct the TSCA Inventory. As a result of our discussions on April 5, 1995, the following approach will be adopted:

- EPA will conduct a search of the TSCA Inventory to identify a list of non-confidential names of submitters who reported a diner acid or its derivative according to one of the six aforementioned chemical descriptions. PCA will contact these submitters to notify them about the Inventory nomenclature changes concerning diner acids and their derivatives, and will provide whatever assistance that may be needed in preparing and submitting the necessary corrections for the Inventory. EPA will notify those submitters whose names have been claimed as confidential, using a copy of the outreach letter to be prepared by PCA.

- For purposes of the dimer acids corrections, each person requesting an Inventory correction must fill out and submit to EPA a copy of an Inventory Form C for each corrected substance. The submitter must also either attach a copy of the original submission if it is available, or reference the original form number or PMN case number on the correction form. EPA will waive all other documentation requirements stipulated in the 1980 Inventory correction guidelines, as long as the request for correction is within the scope discussed in this letter and the request just involves a one-for-one replacement of a previously reported substance listed on the TSCA Inventory.

- PCA will be responsible for industry outreach and follow-up, making it clear that this is a strictly voluntary effort initiated by members of the PCA. PCA should make every effort to contact the customers of the manufacturers and importers of dimer acids, so that all potential manufacturers of dimer acid derivatives will be aware of the Inventory nomenclature changes and Inventory correction implications, as well as how these substances

should be reported in future PMN submissions. EPA will amend the Inventory by correcting the names for dimer acid derivatives, after requests for Inventory corrections have been received by the Agency.

- Assuming that PCA has already notified all of the customers using a dimer acid about the Inventory changes and the regulatory implications, EPA may consider using a simplified approach to delist the incorrectly identified Inventory listings. With this approach, EPA may decide not to list in an Inventory delisting notice in the Federal Register each individual substance to be removed from the Inventory as a result of this correction effort. Instead, EPA may simply list the dimer acid Inventory listings that are to be delisted, and indicate that all derivatives named according to one of these dimer acids would also be delisted.

Please be advised that all Inventory corrections should be forwarded to the following address:

U. S. Environmental Protection Agency
Office of Pollution Prevention & Toxics
Chemical Inventory Section (7406)
401 M Street, S.W.
Washington, D.C. 20460

In closing, I want to thank you for bringing this matter to our attention. Please feel free to contact me if there are additional questions regarding this matter.

Sincerely,

Henry P. Lau, Chief
Chemical Inventory Section