BUBBLER CANISTERS CONTAINING PHOSPHOROUS OXYCHLORIDE ARE NOT WASTE WHEN RETURNED TO THE UNITED STATES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
Office of Solid Waste and Emergency Response

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Mr. Satoru Morishita
Deputy Director
Office of Marine Pollution Control
& Waste Management
Environmental Agency
Kasumigaseki 1-2-2
Chiyoda-ku, Tokyo, Japan

Dear Mr. Morishita:

I am writing in response to your to letter to Paul Borst of November 11, 1994 regarding the export from Japan to the United States of bubblers containing phosphorus oxychloride used in the production of semiconductors. In that letter you requested clarification on the EPA position that bubbler canisters containing phosphorous oxychloride are not waste when returned to the United States from Japan for regeneration. In our previous correspondence to of September 14, 1994, EPA stated that we do not believe that phosphorous oxychloride remaining in the bubbler canisters is used based on a comparison of data on the purity of that substance and new phosphorous oxychloride added to the canister. This comparison showed that the phosphorous oxychloride remaining in the returned canister is almost as pure as it was when inserted into the canister. As stated in our prior correspondence to you, under U.S. hazardous waste laws and regulations, unused commercial chemical products that are to be reclaimed are not solid wastes. Therefore, in our view, bubbler canisters containing phosphorous oxychloride when sent for regeneration are not subject to the terms of the OECD decision C(92)39/Final as far as implementation of that agreement by the United States government. Of course, other countries involved in a transboundary movement of waste might have a different national procedure for determining what is a hazardous

waste. If another OECD country considered it a hazardous waste subject to the OECD council decision we would expect them to enforce the requirements of the OECD council decision.

In your letter to Mr. Borst, you request clarification on U.S. hazardous waste laws and regulations and the OECD system with respect to three different factual situations on the management of bubbler canisters containing phosphorous oxychloride. You also request technical assistance on how the remaining phosphorous oxychloride should be managed.

In the three factual situations you present, there are identical elements: 1) bubbler canisters are exported from country X to Japan for semiconductor production, 2) after the canisters are depleted they are returned to country X for regeneration. The only differences in each factual situation is the management of the remaining phosphorous oxychloride upon its return to country X. The U.S. detailed regulations on what is a hazardous waste are only legally relevant to U.S. regulations applying if one of the countries involved is United States. We cannot interpret other countries national procedures.

In the first situation, you state that the remaining phosphorous oxychloride is removed from the bubbler canister and distilled before being reintroduced with new phosphorous oxychloride to regenerate the canisters. This is essentially what happens when the bubbler canisters are exported to the United States. For the reasons stated above, EPA would not consider the phosphorous oxychloride to be a waste and therefore the bubbler would not be subject to U.S. regulations to implement the OECD decision C(92)39/Final.

In the second situation, the remaining phosphorous oxychloride is not distilled or removed from the bubbler canister. The bubbler canister is regenerated by simply adding new phosphorous oxychloride. EPA would not consider the bubbler to be waste in this situation because the remaining phosphorous oxychloride would simply be continuing to be used as a product. Therefore it too would not be subject, in our view, to U.S. regulations implementing the OECD decision C(92)39/Final.

In the third situation, the remaining phosphorous oxychloride is removed from the bubbler canister and disposed of.

The bubbler is regenerated by adding new phosphorous oxychloride. Because EPA has viewed remaining phosphorous oxychloride as an unused commercial chemical product and therefore not a waste, we would view the transport of the bubbler canisters from Japan to Country X in this situation as intended for reclamation rather than disposal. If the importer/reclaimer in Country X makes a decision to discard remaining phosphorous oxychloride rather than reclaim or reuse it as in the first two situations, EPA would view that material as being generated as a waste at the importing country's reclamation facility rather than the exporting country's facility. Since EPA would not view the remaining phosphorous oxychloride as a waste until it had arrived and the importer/reclaimer had made a decision to dispose of it, the Agency would not consider the bubbler canister to be a waste and therefore not subject to U.S. regulation to implement the OECD decision C(92)39/Final.

Finally, you ask how the remaining phosphorous oxychloride should be treated. When a decision is made by a waste handler to discard phosphorous oxychloride, EPA believes that this material is hazardous because it is reactive and possibly corrosive. It is our understanding that the phosphorous oxychloride reacts violently with water during its use and has the potential to cause an explosion. It is also our understanding that the compound is highly corrosive and can cause skin burns. Phosphorous oxychloride can be destroyed through the addition of sodium hydroxide solution. The mixture should then be cooled, neutralized and disposed. It is inappropriate for untreated phosphorous oxychloride to be land disposed or discharged to a wastewater treatment system. If you have any further questions, please contact either Paul Borst at (202) 260 6713 or Denise Wright at (202) 260-3519 of my staff if you would like to discuss this matter.

Sincerely,

David Bussard, Director
Characterization and
Assessment Division

Date: November 11 1994

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Mr. Paul Borst
Characterization and Assessment Division
Office of Solid Waste
United States Environmental Protection Agency

Dear Sir:

First of all, let me introduce myself briefly. I am responsible for implementing the OECD system and the Basel Convention in the Japan Environment Agency, competent authority of Japan. Mr. David Bussard suggested to me that I should contact you in his kind letter dated September 14, 1994 in response to my letter dated May 31, 1994 for clarifying the status under the OECD system with respect to the export from to Japan to the United States of bubblers containing phosphorous oxychloride used in the production of semiconductors.

Based on the information on the letter of Mr. Bussard, I would like to ask you to inform me of the status of your country concerning the following cases in line with both the U.S. hazardous waste laws and regulations and OECD system in order to avoid the misunderstanding.

Case 1
Waste Description: Bubblers containing a small quantity of phosphorous oxychloride

Recovery Operation: Recycling/Reclamation of other inorganic materials
Exporting Country: Japan
Importing Country: X Country (OECD member country)

These bubblers were exported from X country to a private company in Japan for producing semiconductors. After phosphorous oxychloride is depleted, they are to be returned from Japan to X country and are regenerated by distilling any phosphorous oxychloride remaining in the canister and adding new phosphorous oxychloride to the

bubbler canister.

Case 2

Waste Description, Recovery Operation, Exporting & Importing Country

Same in Case 1

After phosphorous oxychloride is depleted, they are to be returned from Japan to X country and are regenerated by adding new phosphorous oxychloride to the bubbler canister.

Case 3

Waste Description, Recovery Operation, Exporting & Importing Country

Same in Case 1

After phosphorous oxychloride is depleted, they are to be returned from Japan to X country and are regenerated by removing the phosphorous oxychloride remaining in the bubbler canister and adding new phosphorous oxychloride to the canister. The removed phosphorous oxychloride is to be disposed of.

According to the letter of Mr. Bussard, the data of Schumacher of Carlsbad indicate that the phosphorous oxychloride in the returned canister is not used. I would like to know how the remaining phosphorous oxychloride should be treated? Should it be disposed of or destroyed by the pre-treatment?

So, could I ask you to give me some advice regarding the above-mentioned cases and question? I am looking forward to receiving your kind respond on this issue. Thank you very much in advance.

Sincerely yours,

Satoru Morishita
Deputy Director

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