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OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

APR 21 1988

Anthony R. Sinibaldi
Senior Vice President
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Governor Lea Road
P.O. Box 319
Delaware City, Delaware 19706

Dear Mr. Sinibaldi:

This is in response to your December 21, 1987, letter to Marcia Williams, the subsequent meeting here at EPA on January 13, 1988, and your March 16, 1988 letter to Michael Petruska concerning the regulatory status of your distillation or fractionation column bottoms from the production of chlorobenzene. This letter is also to correct certain errors that were made in an October 16, 1987, letter from Marcia Williams to Phil Retallick, Director of Delaware's Division of Air and Waste Management, on the same subject.

K085 Listing Description

First, let me reiterate that we view the bottom stream from chlorobenzene production as a secondary material, i.e., a by-product, not a co-product. The bottoms, although they may have some economic value, must be processed before use. See the discussion in the Federal Register of January 4, 1985, in which EPA stated that:

> "...by-products are materials, generally of a residual character, that are not produced intentionally or separately, and that are unfit for end use without substantial processing. Examples are still bottoms..." (50 FR 625.)

The determination that the bottoms are a by-product, however, does not automatically mean that they are the EPA listed waste K085. To meet the listing description, the bottoms must first be a solid waste, defined by 40 CFR Section 261.2.

As explained below, the determination of a material being a solid waste depends on the disposition, or intended disposition, of the material. Any material that is abandoned by being disposed of, burned, or incinerated (or accumulated, stored, or treated in lieu of being abandoned) is a solid waste. (See Section 261.2(b).) Additionally, secondary materials are also solid wastes if they are recycled, or accumulated or treated before recycling, as specified in Section 261.2(c). Further, materials may be designated as "inherently waste-like" by EPA under Section 261.2(d).

The remainder of this letter provides EPA's determinations regarding the processes you have described to us. Please not, however, that these determinations are only accurate to the extent we have all relevant facts. If the State needs further information or documentation on these processes, you are required to provide the information under 40 CFR Section 261.2(f), even for processes that we say here are exempt from regulation.

Thermal Oxidation Process

The first question to be answered is whether the gas-fired thermal oxidizer, which we understand uses controlled flame combustion, is an incinerator, a boiler, or an industrial furnace. (See the discussions at 50 FR 625-627, January 4, 1985, for the Agency's basic approach to classifying combustion devices.)

The classification of your oxidizer unit into one of these three categories is central to determining its regulatory status. If your unit is an incinerator, Table 1 in 40 CFR Section 261.2(c) is not relevant, and the unit is not eligible for any exclusions in Section 261.2(e)(1). This is because any burning in an incinerator is waste destruction, subject to 40 CFR Parts 264 and 265, Subpart O, even if material or energy recovery also occurs. (See the discussion at 48 FR 14484, April 1983. "If material or energy recovery occurs, it is ancilliary to the purpose of the unit - to destroy wastes by means of thermal treatment - and so does not alter the regulatory status of the device or activity." An example involving recovery of hydrochloric acid is then presented. Id.)

Our determinations regarding your thermal oxidation unit are as follows:

> The unit does not meet the definition of a boiler cited in Section 260.10 (e.g., it does not export thermal energy);
>
> Based on the information that has been provided to EPA, we believe the unit is not an industrial furnace. To be an industrial furnace, the unit must be specifically listed in Section 260.10 [cement kilns; lime kilns; aggregate kilns; phosphate kilns; coke ovens; blast furnaces; smelting, melting, and refining furnaces; TiO2 chloride process oxidation reactors; methane reforming furnaces; and combustion devices used in the recovery of sulfur values from spent H2SO4];
>
> Therefore, since the gas-fired thermal oxidixer is neither a boiler nor an industrial furnace, the unit is classified as an incinerator. Thus, it would be subject to 40 CFR Parts 264 and 265, Subpart O.

EPA considers adding units to the Section 260.10 definition of industrial furnace on a case-by-case basis. Persons may petition the Agency under Section 260.20 to add units to the definition. Dow Chemical, Inc., submitted such a petition in July 1986 for their halogen acid furnaces (HAFs), and EPA proposed to grant the petition on May 6,, 1987. (See 52 FR 17018-17019.) Under the May 6 proposal, an HAF would be considered an industrial furnace provided that the unit is used for:

> " ...production of acid from halogenated secondary materials generated at chemical production facilities where the furnace is located on-site and the acid product has a halogen acid content of at least 6%." (See proposed Section 260.10, id., at 17033.)

Your thermal oxidation unit appears to meet these conditions. Therefore, at such time as EPA finalizes this proposal, the classification of your unit would change from an incinerator to industrial furnace. The result of this change would be that the unit would be subject to the Part 266, Subpart D, standards for boilers and industrial furnaces, in lieu of the Part 264 and

265, Subpart O, incinerator standards. (See id., at 17019.) In either case, the chlorinated by-product introduced to the unit is the EPA listed waste K085.

Hydrodechlorination Process

Based on the information you provided, your hydrodechlorination process does not appear to involve controlled flame combustion; therefore, the above discussion concerning boilers, furnaces, and incinerators is not relevant. Since you are using the chlorinated by-product as an ingredient in production of lower chlorinated feedstocks and muriatic acid, and since no burning, reclamation, or use constituting disposal is involved, the by-product appears to meet the terms of the exclusion in 40 CFR Section 261.2(e)(1)(i), and therefore it is not a solid waste (i.e., it is not K085.) Please note, however, that if the by-product is accumulated speculatively as defined in Section 261.1(c)(8), it would then become solid waste (see Section 261.2(e)(2)(iii)) and would be K085. Further, your unit may be affected by changed EPA is considering to the definition of industrial furnace, discussed in the last section of this letter.

Use in Titanium Dioxide Production

Your December 21, 1987, and March 16, 1988, letters state that Standard Chlorine plans to sell a blend of the two higher chlorinated benzene process streams to another company for use in titanium dioxide manufacture. The process streams will be introduced to an oxidation reactor where titanium tetrachloride is converted to titanium dioxide, and will, your letters state, substitute for toluene in the production process.

The oxidation reactor would appear to meet the definition of an industrial furnace in 40 CFR Section 260.10, i.e., see paragraph (8) in the definition. From the information you provided, the chlorinated benzene stream will provide not only chlorinated material but also energy value. The regulatory status of material sent for this use currently depends on its energy value. If the chlorinated benzene stream has significant energy value, e.g., equal to or greater than materials used commercially as fuel--generally around 5000 btu per pound--and the energy is used in the production process, then the material

is considered to be burned at least partially for energy recovery. Thus, the material is considered to be the listed waste K085 and the standards of 40 CFR Part 266, Subpart D, for hazardous waste burned for energy recovery would apply to the furnace and the material sent to the furnace. The oxidation reactor would also be subject to the standards for industrial furnaces proposed on May 6, 1987. (See 52 FR 16982.) If the chlorinated material is burned without significant energy recovery, however, then the material may not be solid waste because it is used as an ingredient to make a product. (See 40 CFR Section 261.2(e)(2)(i) and (e)(2)(ii).)

Changes Being Considered for Certain Units

As the above discussion indicates, EPA's current rules defining solid waste and the applicability of standards depend on, first, the classification of the unit, and then whether the material is burned (partially) for energy recovery. EPA is considering modifications to this approach in the near future that could affect your processes. First, we are concerned about secondary materials that could be hazardous waste if burned for energy recovery or destruction but that are excluded from regulation when burned as an ingredient in a production process. To deal with the potential health risk from burning such materials as an ingredient, we are considering proposing to designate materials introduced to HAFs, and perhaps other furnaces (possibly including oxidation reactors used in titanium dioxide production ) as "inherently waste-like materials" under 40 CFR Section 261.2(d). This would mean that, if your proposed thermal oxidation unit meets EPA's definition of an industrial furnace, the standards proposed on May 6, 1987 would apply to the unit whether or not any energy is recovered from the K085 chlorinated stream. The material sent for titanium dioxide production could also be brought under regulation as K085 if we promulgate such a designation.

Second, EPA is considering proposing to amend the definition of industrial furnace to remove the condition that furnaces must use "controlled flame devices" to accomplish recovery of materials or energy. The impact of this change could be that your non-flame hydrodechlorination unit could be designated as an industrial furnace, and then would be subject to the standards proposed on May 6, 1987.

If you have general questions about this letter, please contact Michael Petruska at (202) 475-9888. If you have questions about the classification scheme for combustion devices, please contact Robert Holloway at (202) 382-7917. Finally, as stated above, your primary contact on RCRA matters should continue to be Delaware Department of Natural Resources and Environmental Control (DNREC). We will be providing copies of this letter to Delaware DNREC as well as EPA Region III.

Sincerely,

Original Document signed

Sylvia K. Lowrance, Director
Office of Solid Waste