



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

MAY 08 2015

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

Scott DeMuth
Vice President, Business Development
g²revolution, LLC
8585 Pyott Rd.
Suite 100
Lake in the Hills, IL 60156

Dear Mr. DeMuth:

Thank you for your letter of October 17, 2014, requesting an opinion from the U.S. Environmental Protection Agency (EPA) on the applicability of federal Resource Conservation and Recovery Act (RCRA) regulations to your nicotine reclamation process (KnightshadeTM).

To summarize your letter, retailers send to your company unused and unsaleable nicotine-containing products, including gum, lozenges, patches and e-cigarettes. Your company extracts the nicotine and then sells the extracted nicotine to another company that purifies the nicotine for sale to manufacturers of new nicotine-containing products.

Nicotine-containing gums, lozenges, patches and e-cigarettes are considered acute hazardous waste under the RCRA regulations at 40 CFR 261.33(e) for *nicotine and salts* (EPA waste code P075) and thus may be subject to hazardous waste regulation when discarded. In your letter, you ask whether the nicotine-containing gums, lozenges, patches and e-cigarettes would be exempt from the definition of solid waste under 40 CFR 261.2(c)(3) because they are commercial chemical products being reclaimed (also see Table 1 in § 261.2 which indicates that commercial chemical products being reclaimed are not solid wastes). As discussed in more detail below, the EPA has concluded that, provided the nicotine-containing products are being legitimately recycled according to § 260.43, the nicotine-containing products would not be considered solid waste and thus are not subject to RCRA hazardous waste regulation when sent for nicotine reclamation. Please note this letter also discusses the regulatory status of waste streams generated from the reclamation process.

Recycling Process & Legitimacy Factors

Whether the nicotine-containing gums, lozenges, patches and e-cigarettes are exempt from regulation as a solid and hazardous waste because they are commercial chemical products being reclaimed depends on whether the nicotine reclamation performed by your company is considered legitimate recycling.

On January 13, 2015, the EPA published in the Federal Register the Definition of Solid Waste Final Rule (80 FR 1694), which prohibits the "sham" recycling of hazardous secondary materials and

hazardous wastes (see § 261.2(g)). EPA also codified in § 260.43(g) previous guidance on what constitutes “legitimate” recycling, and specified the four factors that must be met for recycling to be legitimate. The four legitimacy factors are as follows:

- Factor 1: Legitimate recycling must involve a hazardous secondary material that provides a useful contribution to the recycling process or to a product or intermediate of the recycling process. In this case, the nicotine-containing products must be the source of a valuable constituent (i.e., nicotine) recovered in the recycling process.
- Factor 2: The recycling process must produce a valuable product or intermediate. In your case, the nicotine would be considered a valuable product if it is sold to a third party.
- Factor 3: The generator and the recycler must manage the hazardous secondary material as a valuable commodity when it is under their control. In your case, the nicotine-containing products are shipped to you with inner packaging intact and in dedicated containers used for collecting nicotine-containing products. Shipments of nicotine-containing products are also tracked. To meet this factor, you must manage the nicotine-containing products in a manner consistent with the management of the raw material, nicotine, or at least equally protective.
- Factor 4: The product of the recycling process must be comparable to a legitimate product or intermediate. This factor refers to the presence of hazardous constituents other than the product itself. In this case, one approach to meet this factor would be to consider whether there are hazardous constituents in your recycled product other than nicotine and to ensure that those hazardous constituents are at levels comparable or lower than those found in nicotine not made from secondary materials. Another approach for meeting this factor would be to meet widely-recognized specifications that address any hazardous constituents that are present in your product.

It is the responsibility of both the generator and the recycler to determine whether recycling is legitimate, taking into account the four factors as outlined above.

Waste streams Generated During the Reclamation Process

Batteries

You note that you remove the batteries from the e-cigarettes and manage them as “Universal Waste” under the RCRA regulations, and have them recycled. We encourage you to continue managing the batteries in this manner.

Process Water

In your letter, you indicate that the water used during recycling is captured and reused and that when this process water is no longer useful, it is discharged to the city sewer. While this discharge would not be considered a solid waste under the domestic sewage exclusion in § 261.4(a)(1)(ii), the spent process water is not excluded under this provision while it is being managed prior to discharge. In addition, we note that the Clean Water Act regulations may require advanced notification of the discharge to the publicly owned treatment works (POTW) 40 CFR 403.12(p)(1) if the discharge would be a listed or characteristic hazardous waste, if otherwise disposed. Furthermore, state and local regulations may place additional limits or requirements on the discharge.

Other Wastes Generated During Recycling

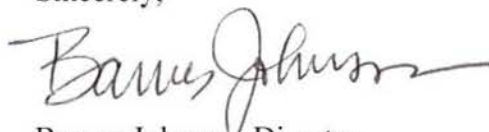
Your letter indicates that wastes are generated during the recycling process, including gum residue and patch fabric. You state that Knightshade has taken the conservative approach by applying the “derived from” rule (§ 261.3(c)(2)) to these wastes and therefore you manage them as P-listed hazardous wastes. However, your letter questions whether the derived-from rule applies. As discussed above, if the nicotine-containing products that you receive are commercial chemical products being legitimately recycled, they are not considered solid wastes and therefore they are not considered P075 hazardous wastes. As a result, the P075 listing would not apply to the wastes derived from recycling these products (except inner packaging that is discarded, if not rendered empty under RCRA, as explained above). Therefore, the wastes generated from the recycling process would only be regulated as hazardous waste if they meet another listing or they exhibit a hazardous waste characteristic. Nevertheless, we encourage the conservative approach you have been taking to manage the wastes generated during recycling as P-listed hazardous waste.

Additional Information

Please note this letter discusses only how the federal hazardous waste regulations apply to your nicotine reclamation process. Under Section 3006 of RCRA individual states can be authorized to administer and enforce their own hazardous waste programs in lieu of the federal program. States that are authorized to implement the RCRA program have authority to promulgate regulations that are more stringent than the federal program. We understand that you have already consulted the state in which the recycling facility is located. However, since your clients are in other states, they may wish to consult the states in which they are located about potential additional state regulatory requirements.

If you have any questions about the federal hazardous waste regulations discussed in this memo, please contact Kristin Fitzgerald at (703) 308-8286 or Fitzgerald.Kristin@epa.gov, or about the legitimate recycling standard, specifically, please contact Mary Beth Sheridan at (703) 308-4941 or Sheridan.Marybeth@epa.gov.

Sincerely,



Barnes Johnson, Director
Office of Resource Conservation and Recovery

cc: Jeff Mayhugh, Ohio EPA
Mike Cunningham, EPA Region 5