

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

JULY 12, 1991

Citizen,

Thank you for your letter of September 24, 1990, requesting information on potassium permanganate. I am providing answers for your questions 3, 6, 7, 8, and 9, which raise issues handled by the Environmental Protection Agency's (EPA's) Office of Solid Waste. The remaining questions regard EPA's Office of Toxic Substances.

**3. How can these chemicals (potassium permanganate and manganese), used in the quantities that they are being used in the garment industry, be allowed to be dumped in sanitary landfills?** In general, materials may be disposed of in non-hazardous waste landfills if they are not specifically listed as hazardous waste and/or do not exhibit any hazardous characteristic regulated under 40 CFR 261.21-261.24 (ignitability, reactivity, corrosivity, or toxicity). Since spent permanganate materials are already reduced, they are not likely to be powerful oxidizers and, therefore, are not likely to exhibit a hazardous waste characteristic. Other manganese compounds are not oxidizers and probably may be disposed of in a municipal or industrial landfill.

**6. How can the Texas Water Commission say this chemical is exempt under CFR 261.4? The sludge from the wastewater treatment has a heavy concentration of manganese dioxide which, is a hazardous, toxic chemical. Can this sludge be dumped in a sanitary landfill?** The Texas Water Commission is referring to the fact that industrial discharges from an identifiable source ("point-source" discharges), such as those from a textile operation, are excluded from regulation as a solid or hazardous waste (as in 261.4(a)(2)) when they are regulated under Section 402 of the Clean Water Act (CWA). Such discharges are specifically excluded under Section 1004(27) of the Resource Conservation and Recovery Act (RCRA). This reflects the intent of Congress to avoid duplicating regulation of certain waste streams. Facilities that have point-source discharge permits under the CWA must meet specific criteria given to them by state or local authorities (an example of which may be the Texas Water Commission). These criteria are set to protect the environment, the treatment system in a publicly owned treatment works (POTW), or the health and safety of employees of POTWs.

Sludges from the treatment of these wastewaters at the discharging facility or at the POTW are subject to regulation as solid wastes. If these sludges do not exhibit a characteristic of hazardous waste as described in the answer to question 3, they may be disposed of in a non-hazardous waste landfill. Given that POTWs do not generally wish to be saddled with a hazardous waste disposal problem, they often require the discharging industries to remove potentially hazardous constituents from their

wastewaters. In that way, the POTW can more or less guarantee that its own treatment sludges will not exhibit a characteristic of hazardous waste.

You may note that potassium permanganate is used for wastewater treatment in several industrial sectors, since it is an effective oxidizing agent and less toxic than comparable chromium-based compounds.

**7. How can the Texas Water Commission state that the pumice stones contaminated with manganese dioxide are classified as a Class II waste?** The classification of manganese dioxide by the Texas Water Commission as a “Class II” waste is a matter of state law.

**8. How can the pumice stones contaminated with manganese dioxide be sold to nurseries for use in flower beds?** Pumice stones containing manganese compounds are sold to nurseries for use in flower beds as a commercial product. Apparently, manganese is an essential soil nutrient and is ubiquitous in the environment.

**9. Do all three conclusions from the Texas Water Commission Report make sense when you evaluate the documentation and the dates of the newspaper articles?** The first two conclusions concerning continued monitoring of facilities and the prevalence of using a stone-washed process for garment processing are under the purview of the Texas Water Commission. I can confirm their conclusion that industrial discharges are exempt under 40 CFR 261.4 (and under RCRA section 1004(27)), as discussed under question 6, above.

I hope that this information is useful. We appreciate your interest in the environment.

Sincerely yours,

Sylvia K. Lowrance, Director  
Office of Solid Waste