

(G) Wastewaters derived from the treatment of one or more of the following wastes listed in § 261.32—organic waste (including heavy ends still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156).—Provided, that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter.

Therefore, in order to be exempt, these K156 derived wastewaters would need to demonstrate that the emissions of formaldehyde, methyl chloride, methylene chloride, and triethylamine not exceed a total 5 ppm for environmental discharges and subsequent wastewater treatment. This exemption is different from the K157 exemption in that it is only for wastewaters (i.e., TSS<1% and TOC<1%) derived from the treatment of K156 and not for the generated K156 wastes themselves.

While in general commenters requested this extension of the exemption proposed for K157 wastes to also include similar wastewaters derived from the treatment of K156 wastes, one commenter did object to the proposed exemption, as noted above in section V.B.1. Because significant treatment will be necessary for these to meet the exemption criteria, and the Agency's sampling had included sludges derived from both K156 and K157 wastewaters, the Agency is confident that risks would not be increased by extending the exemption to wastes derived from K156 wastes and is finalizing the above exemption in this rulemaking.

3. Wastewater Treatment Sludge Exemption

One commenter felt that since K156 scrubber water and steam stripping bottoms no longer contain VOCs and the carbamate component has been treated, that the K156 hazardous waste code should not apply to downstream biological treatment system sludges. The commenter therefore believes that the proposed biological treatment sludge exemption should be modified to include K156 wastes which contain <5 ppm of methyl chloride, formaldehyde, triethylamine, and/or methylene chloride) if the wastes are treated in biological treatment systems. The commenter believes that without the exemption, the mixture and derived-from rule will force manufacturers to collect incinerator scrubber waters or stripper bottoms derived from treatment of K156 wastes for off-site management

or collect all K156 organic wastes for off-site management.

The Agency agrees with the commenter and has reevaluated its decision to exempt wastewater treatment sludges. During the industry study the Agency sampled wastewater treatment sludges that were derived from the treatment of K157 wastes as well as sludges derived from K156 wastes. The Agency performed a multipathway risk assessment on the sludges using the collected data and determined that they did not meet the criteria for listing presented in 40 CFR 261.11. The Agency is therefore expanding the scope of the exemption to include K156 derived from wastewaters. The exemption reads:

§ 261.3(c)(2)(ii) * * *

(D) Biological treatment sludge from the treatment of one of the following wastes listed in § 261.32—organic waste (including heavy ends still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

As noted in Section A.5 above, one commenter believed that wastewater treatment sludges contain high contaminant concentrations that warrant regulation. Specifically the commenter believed that concentrations of methylamine, trimethylamine and bis(2-ethylhexyl)phthalate, naphthalene, and 4-methylphenol were sufficiently high to warrant regulation of the sludges. Specifically, the commenter believed that total bis (2-ethylhexyl) phthalate was recorded in one sample as 22 mg/kg, compared to the health-based concentration of 0.006 mg/L; the samples contain 3,320 mg/L, and 4,600 mg/kg total methylamine, compared with aquatic LC50 concentration of 150 mg/L and the lethal dose for mice (subcutaneous) of 2,500 mg/kg; and one sample contained an estimated 15,000 mg/kg total trimethylamine. Concentrations of naphthalene and 4-methylphenol in the sludges also exceed health-based concentrations. The commenter also believed that the risk modeling was flawed in that its exposure pathway assumptions understated the risks in the groundwater pathway and in the modeling techniques used.

For wastewater treatment sludges, the referenced constituents while present, were not present in mobile forms above health-based levels or aquatic LC50. Specifically, methylamine was detected in RP-09 at 4.6 mg/kg and not 4600 mg/kg as the commenter noted. As well

trimethylamine was found at 15 mg/kg and not 15,000 mg/kg as reported by the commenter. While some constituents in the solid wastes exceeded the health-based numbers, the constituents were not found to leach from the matrices. Only one leachate sample had bis 2-(ethylhexyl)phthalate (DL-05 TCLP (2 times the HBL)) present at a concentration that exceeded the health based number.

The Agency used these concentrations in the multipathway risk assessment and considered as plausible mismanagement the current management pathways of management in tanks and subsequent disposal in landfills. No significant risks were attributed to these management scenarios. The Agency believes that the management scenarios used in the risk assessment were appropriate because the industry is currently managing the sludges in this manner. In the assessment of landfill management, model leachate concentrations were matched to analytical TCLP leachate concentrations. The Agency calibrated model outputs to experimental measurements of actual leaching potential, and believes that it has accurately assessed the leaching potential of this wastestream. As a result the Agency does not believe listing of the wastewater treatment sludges is warranted and that the exemptions provide for these sludges is appropriate.

C. Basis for Listing and Decisions Not to List

One commenter believes that the K156 through K161 listings are based on mischaracterized waste streams. The commenter believes that in some cases identified constituents of concern come from non-carbamate processes and thus should not be used in evaluating the risk of carbamate waste streams. The commenter also believes that the Agency did not collect enough data to support this rulemaking and that EPA has based the proposed listing on constituents that are only proposed for addition to appendix VIII rather than those already on appendix VIII. Several commenters did not believe that the EPA demonstrated that the K156 through K161 wastes meet the listing criteria set out in 40 CFR 261.11. Commenters believe that the Agency misapplied the listing criteria by using inappropriate mismanagement scenarios to evaluate the hazards posed by the carbamate wastes. The commenters believed that the Agency should have used management scenarios which the waste would normally undergo. Specifically, the commenter believes that the Agency only used exposure