

US EPA ARCHIVE DOCUMENT

DCN PH4P039
COMMENTS AWPI
RESPONDER JL
SUBJECT WOOD9
SUBJNUM 039
COMMENT DIOXIN AND FURAN LIMITS FOR F032 WASTEWATERS ARE UNACHIEVABLE

EPA has proposed treatment standards for F032 wastewaters that were transferred from the UTSs for dioxins and furans in organic wastewater. These UTSs are based on biological treatment of wastewaters containing very low concentrations of dioxins and furans ranging from 0.00004 µg/L to 0.0118 µg/L. The average concentrations of dioxin and furans in F032 wastewaters are much higher ranging from 0.9 µg/L to 60 µg/L. COMMENT: Given that the removal efficiency for biological treatment of the lesser concentrated was only 78 percent, AWPI does not believe that EPA can support the claim that the UTS can be met with the higher concentrations of dioxins and furans found in F032 wastewaters.

RESPONSE

The commentor has asked EPA to withdraw the proposed UTS limits for the regulation of dioxin and furan (D/F) constituents in wastewater forms of F032. The commentor indicates that the proposed UTS limits cannot be achieved since the untreated concentrations of D/F in F032 are much higher than those observed in untreated wastewater supporting the UST limits.

Like other commenters, this commentor feels that the limits proposed for D/F in F032 wastewaters are not achievable. Commenters feel that EPA's own wastewater characterization data showed that the D/F concentrations in untreated F032 wastewaters were at significant orders of magnitude greater than the untreated concentrations in wastewater supporting the proposed UTS limits. They also emphasized that the performance of biological treatment units treating D/F constituents achieve up to 78% destruction and thus, it may yield an effluent with higher concentrations than those proposed by EPA. As a result, the commentor concluded that the proposed treatment standards for D/F in wastewater forms of F032 cannot be met.

EPA has examined the available data on the characterization of F032, prevailing management practices for wastewaters as difficult to treat as F032, and for wastewaters managed by biological treatment systems. EPA acknowledges that the concentrations of D/F in F032 wastewaters, as generated, are much higher than those treated by the biological treatment system supporting the UTS limits for D/F promulgated today. Based on the available data, EPA believes that prevailing wastewater treatment practices in the Wood Preserving industry can be optimized or up graded to meet the D/F limits proposed for F032 wastewaters.

EPA believes that these F032 wastewaters can meet the proposed limits because Wood

Preserving facilities currently treat these wastewaters via biological treatment and the concentrations of Pentachlorophenol(PCP)and D/F in F032 wastewaters are being reduced substantially in order to enable the treatment of F032 wastewaters via biological treatment processes. In general, the PCP in F032 wastewaters in Wood Preserving facilities is comprised of soluble and nonsoluble PCP loadings or fractions. Generally, soluble PCP fractions enhance the solubility of D/F constituents in the wastewater. Nonsoluble fractions of PCP also carry concentrations of D/F and these constituents partition with oils, colloids, and suspended solids.

Soluble PCP fractions are being treated in biological treatment processes once appropriate pretreatment units have removed the nonsoluble PCP loadings to the wastewater treatment system. Also, a reduction in the loading of colloids, metals, total suspended solids(TSS), oils, and grease to biological treatment processes is necessary, because these wastewater contaminants can inhibit the performance of biological treatment processes. These wastewater inhibiting contaminants are typically treated in physical/chemical trains such as API sludge tanks which separate oil and grease fractions from the wastewaters, followed by the treatment of API wastewater effluents in a dissolved air flotation (DAF) which removes residual oils, residual grease, and colloids, and followed by filtration of DAF wastewaters to remove TSS and any residual colloids. These wastewaters are then routed to holding tanks which feed them to biological treatment processes. If biological treatment effluents still yield wastewaters with D/F concentrations above the UTS limits, these wastewaters can be treated by a sequence of three treatment trains:(1)filtration (if necessary), (2) pH adjustment to a neutral or slightly acidic pH, and (3) activated carbon adsorption. EPA has data on the performance of these technologies and the available data support promulgation of the proposed UTS limits. EPA believes that, generally, activated carbon adsorption (ACA) will allow facilities to treat wastewater effluents from bioreactors. ACA is widely used for the remediation of surface waters/groundwaters at wood treater sites. As a result, EPA is promulgating the UTS limits for D/F in wastewater forms of F032, as proposed. In short, EPA believes the standards to be achievable through pretreatment to remove interfering agents, followed (if necessary) by sequential treatment to achieve the standards. For additional discussion on EPA's determination, see Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035.

Another commentor asked EPA to withdraw its proposal for the regulation of D/F constituents in F032 wastewaters. The commentor believes that the regulation of PCP and Polycyclic Aromatic Hydrocarbons (PAHs) can ensure the reduction of D/F in F032 wastewaters. The commentor also submitted data with regard to concentrations of D/F, PCP, and PAHs analytes in two effluent F032 wastewaters treated by activated carbon adsorption. These data appear to support the commentor's statement that monitoring of PCP and PAHs may serve as a surrogate candidates for the reduction of D/F levels in these particular effluent wastewaters. However, EPA lacks data to determine if the alternative surrogate constituents proposed for regulation can also serve as surrogates for monitoring the treatment of D/F in wastewater treatment effluents resulting from other treatment technology trains that may achieve the proposed UTS. Although EPA is not adopting this proposed alternative treatment standard for D/F regulated in F032 wastewaters, EPA points out that treaters of F032

wastewaters can address this kind of alternative compliance monitoring scheme in their permits' Waste Analysis Plans (WAP). Another option to the monitoring of D/F in treated F032 wastewater treatment effluents is the use of expert knowledge to certify that F032 wastewaters meet the applicable UTS limits for D/F or any other regulated constituent in the waste (see 40 CFR 268.7). It should be emphasized, however, that whether or not regulated D/F analytes are monitored in a WAP approved by EPA or an authorized State, EPA is not precluded from enforcing the applicable treatment standards by characterizing each D/F, organic, and metal analyte regulated in F032.

EPA is promulgating, therefore, UTS limits for D/F in wastewater forms of F032 as proposed. EPA also notes that it expects the wastewater standards to have little practical impact. If wastewaters are treated in tanks, LDRs do not apply because there is no land disposal. If the wastewaters are treated in impoundments, the impoundments will meet minimum technological requirements and so satisfy the requirements of section 3005 (j) (11), which means that the wastewaters do not have to be treated before they are placed in the impoundment. If the wastewaters are injected, there is ample capacity among Class 1 wells with approved no migration petitions to take untreated wastewaters.