

² One of those constituents which cannot be disposed of in a municipal or other non-hazardous waste landfill under today's proposal because they exhibit the toxicity characteristic instead of because of the outcome of the risk screening analysis. For further discussion, see Section V.B.5.

³ Methyl isobutyl ketone is listed for its characteristic of ignitability and, therefore, when it is mixed with solid waste, is no longer considered hazardous waste unless it continues to display its characteristic. Therefore, although this risk screening analysis lists MIBK as Unacceptable, a wipe containing it can be disposed of in a municipal or other non-hazardous waste landfill if it meets the other conditions.

2. Ash From Incineration of Disposable Solvent-Contaminated Industrial Wipes Managed in Landfills

Even though the analysis of risks from disposing of incinerator ash in landfills was conservative by assuming that all of the solvent that was not destroyed went into the ash (as opposed to some of it being emitted from the stack) and that the ash was from a small combustion unit (meaning that a higher percentage of the total amount of material being burned consisted of wipes), the analysis still indicated that none of the solvents would exceed the health benchmarks if the ash were disposed of in a landfill.

3. Sludge From Wastewater Treatment at Industrial Laundries and Managed in Landfills

This analysis indicated that only one constituent, 2-nitropropane, would be present in sludge at a level which would reach the allowable health benchmark. Even for this highly toxic solvent, the loading in sludge (0.004 kg/day) just barely exceeded the allowable loading (0.0033 kg/day). In this case, the exposure route of concern is inhalation of the solvent which has volatilized from the landfill. For the reasons previously cited (receptor only 75 meters from the landfill, selection of the highest wastewater concentration value, etc.), we believe that a more rigorous risk assessment would determine that 2-nitropropane would not have exceeded the allowable loading for sludge from wastewater treatment.

An August 15, 2002 letter from representatives of the Association of Nonwoven Fabrics Industry (INDA) and the Secondary Materials and Recycled Textiles Association (SMART) provides information that suggests that the amount of solvent in reusable industrial wipes is substantially greater than the amount EPA used in conducting our risk screening analysis for this proposed rulemaking.¹⁶ Based on this information, the letter questions whether a specific concentration limit should be placed on the amount of solvent remaining in reusable industrial wipes rather than relying on the "no free liquids" condition. It also suggests

that most of this solvent will end up in the sludge that is generated from the treatment of wastewater from industrial launderers and will present more of a risk than EPA's risk screening assessment would indicate.

Accordingly, the Agency is evaluating the issues raised in the letter to determine if there is a need to impose additional conditions to address risks posed by the disposal in municipal or other non-hazardous waste landfills of sludges generated by industrial laundries.

4. Ecological Assessment

The analysis projected that none of the solvents would exceed their respective water quality criteria despite the conservative assumptions that all of the solvent released in landfill leachate would reach a small stream.

D. What External Review Was Done of the Risk Screening Analysis?

In addition to conducting and reviewing the risk screening analysis internal to EPA, three independent experts provided an external peer review of the analysis of risks from constituents once they had been disposed of in a landfill. These reviewers did not evaluate the assumptions behind the loadings of solvents assumed to be sent to the landfill.

These reviewers indicated that the analysis could over predict risk because (1) the partitioning model accounts for too little degradation in a landfill, (2) degradation once a constituent leaves the landfill is not considered, and (3) the toxicity of trichloroethylene¹⁷ may be overestimated. On the other hand, the reviewers indicated that the analysis could under predict risks because (1) parameters other than the ones for which a sensitivity analysis was conducted could be more sensitive in predicting risk, (2) effects from solubilization by organic compounds were not considered, (3) additional exposure pathways could contribute additional risk, and (4) the carcinogenicity of tetrachloroethylene was not considered. The peer reviewers full comments are presented in the docket. EPA has not yet addressed these comments, but will address them in

concert with addressing public comments on the risk screening analysis, including the public's comments on the peer reviewers' comments.

In addition, the Integrated Waste Services Association commented on the analysis of risks from ash disposal. They found the analysis overly conservative; however, since the analysis did not indicate any risks from this waste, EPA does not believe it is necessary at this time to further refine this part of the risk analysis since further refinement would not change our general conclusions.

We request comment on the risk screening analysis discussed in this section of the preamble and discussed in more detail in Section V of the Technical Background Document. In particular, we seek comment concerning:

- The assumptions used in each of these analyses; *i.e.*, landfill, ash and sludges
- The data used in modeling risks
- The methodology used in each of these analyses
- Conclusions and recommendations
- The comments provided by the three external peer reviews
- Or any specific aspect of the risk screening analyses.

VIII. History and Relationship to Other Rulemakings

A. Proposed Effluent Guidelines for Industrial Laundries

On December 17, 1997, EPA proposed to establish pretreatment standards and effluent limitations guidelines (ELGs) for industrial laundries (62 FR 66181).¹⁸ In conducting investigations of effluents discharged from industrial laundries to support the development of the proposed rulemaking, EPA found that the effluent from many industrial laundries contain concentrations of solvents known from site visits to be

¹⁸ The proposed effluent guidelines would have established numerical limitations that are based on technology treatment of industrial laundry wastewater for 11 priority and non-conventional pollutants. These standards were based on a determination of the degree to which pollutants pass through or interfere with POTWs; the best available technology economically achievable for Pretreatment Standards for Existing Sources; and the best demonstrated available control technology for Pretreatment Standards for New Sources. The proposal also provided regulatory relief for facilities which launder less than 1 million pounds of incoming laundry per calendar year and less than 255,000 pounds of industrial wipes.

¹⁶ See "8/15/02 letter from Bourdeau to Dellinger;" "Assessing Management of Sludge Generated by Industrial Laundries," EPA OSW, May 9, 2000; and our final risk screening analysis document, "Estimating the Risk from the Disposal of Solvent Contaminated Shop Towels and Wipes in Municipal Landfills," USEPA, March 1999.

¹⁷ EPA's Office of Research and Development is currently in the process of developing a new toxicity assessment for trichloroethylene.