

C. What Were the Results of the Analyses, and What Do They Mean?

1. Disposable Solvent-Contaminated Industrial Wipes Managed in Landfills

The results of the risk screening analysis for each solvent are presented as a comparison of the allowable loading to a landfill (based on meeting the previously described risk thresholds) with the projected loadings under two possible conditions: (1) Untreated industrial wipes and, (2) industrial wipes treated by a technique such as centrifuging which was assumed to remove 90% of the solvent. The detailed results are presented below in Table 6 and show that:

- 16 listed solvent constituents would not exceed risk thresholds, even without treatment,
- 8 additional listed solvent constituents would not exceed the risk thresholds if wipes were processed by solvent extraction, and
- 6 remaining listed solvent constituents would exceed the risk

thresholds even if wipes were processed by solvent extraction.

As indicated earlier, there are a number of conservative factors included in the analysis. Factors which would tend to increase our estimate of risk include the use of the 5th percentile value from the distribution of ratios of leachate concentrations to well concentrations, the assumption of a small landfill in a wet climate, and the assumption that the receptor for inhalation risks is only 75 meters from the landfill. On the other hand, the use of standard default exposure assumptions, as well as some of the loading assumptions were based on best estimates, not conservative assumptions. While EPA has not done a comprehensive sensitivity analysis of all risk factors, the analysis is generally consistent with the Agency policy of using high end risk estimates (above the 90th percentile, but on the real risk distribution) as one factor in its decision making.

Another factor to note is that there is considerable uncertainty in a large number of the parameters used in the analysis. For example, there was wide variability in the estimates of how much solvent would be on each industrial wipe; the estimates of how many facilities would use a particular landfill were based on general demographic data; and the fate and transport models, as well as some of the health benchmarks, have some degree of uncertainty. While the Agency has not conducted a detailed quantitative uncertainty analysis, it is likely that the range of the uncertainty in this risk analysis covers an order of magnitude or more. The Agency specifically solicits comments on the results and the assumptions and decisions made in conducting the risk screening analysis. More information on the analysis can be found in the Technical Background Document for this proposal, available in the Docket.

TABLE 6.—EVALUATION OF SOLVENT-CONTAMINATED DISPOSABLE WIPES FOR LANDFILLING

CAS No.	Constituent (RCRA waste codes)	Loading to meet the health benchmark (kg/day, per landfill)	Loading (kg/day, per landfill)	Loading assuming centrifuging (kg/day, per landfill)	Conclusion ¹
Noncarcinogens					
67-64-1	Acetone (F003)	1.73	4.32	0.432	Centrifuge required.
71-36-3	Butanol (F003)	1.61	1.88	0.188	Centrifuge required.
75-15-0	Carbon disulfide (F005)	0.62	1.03	0.103	Centrifuge required.
108-90-7 ...	Chlorobenzene ² (F002) and (D021)	0.36	1.03	0.103	Centrifuge required.
108-94-1 ...	Cyclohexanone (F003)	64.55	1.88	0.188	Acceptable.
1319-77-3 ...	Cresols (F004) and (D026) ²	0.41	1.03	0.103	Centrifuge required.
75-71-8	Dichlorodifluoromethane (F001)	2.16	1.03	0.103	Acceptable.
95-50-1	1,2-Dichlorobenzene (F002) and (D070)	12.84	1.03	0.103	Acceptable.
141-78-6 ...	Ethyl acetate (F003)	16.17	2.26	0.226	Acceptable.
100-41-4 ...	Ethyl benzene (F003)	11.95	1.88	0.188	Acceptable.
60-29-7	Ethyl ether (F003)	4.30	1.03	0.103	Acceptable.
110-80-5 ...	2-Ethoxyethanol (F005)	3.82	1.03	0.103	Acceptable.
78-83-1	Isobutyl alcohol (F005)	4.31	1.88	0.188	Acceptable.
67-56-1	Methanol (F003)	5.90	3.20	0.320	Acceptable.
78-93-3	Methyl ethyl ketone (F005) (D035)	0.32	3.67	0.367	Unacceptable.
108-10-1 ...	Methyl isobutyl ketone (F003)	0.03	1.03	0.103	Unacceptable. ³
98-95-3	Nitrobenzene (F004) and (U169)	0.043	1.03	0.103	Unacceptable.
110-86-1 ...	Pyridine (F005) (D038)	0.006	1.03	0.103	Unacceptable.
127-18-4 ...	Tetrachloroethylene (F002) ² (D039)	5.83	4.42	0.442	Acceptable.
108-88-3 ...	Toluene (F005)	2.14	5.08	0.508	Centrifuge required.
71-55-6	1,1,1-Trichloroethane (F002)	15.81	9.02	0.902	Acceptable.
76-13-1	1,1,2-Trichlorotrifluoroethane (F002)	403.37	5.17	0.517	Acceptable.
75-69-4	Trichlorofluoromethane (F002) and (U121)	16.05	3.48	0.348	Acceptable.
1330-20-7 ...	Xylenes (total) (F003)	6.18	1.88	0.188	Acceptable.
Carcinogens					
71-43-2	Benzene (F005) (D018) ²	0.24	1.03	0.103	Centrifuge required.
56-23-5	Carbon tetrachloride (F001) (D019) ²	3.0	1.03	0.103	Acceptable.
75-09-2	Methylene chloride (F002)	0.39	9.54	0.954	Unacceptable.
79-46-9	2-Nitropropane (F005)	0.003	1.03	0.103	Unacceptable.
79-01-6	Trichloroethylene (F002) (D040) ²	27.66	1.03	0.103	Acceptable.
79-00-5	1,1,2-Trichloroethane (F002)	0.83	1.03	0.103	Centrifuge required.

¹ For this analysis, the human health benchmarks were a hazard quotient of 1 for a non-carcinogen or a carcinogenic risk of 10⁻⁵. Values above these numbers were deemed to pose an unacceptable risk to human health.