SUPERFUND TREATABILITY CLEARINGHOUSE ABSTRACT

Treatment Process: Thermal Treatment - Incineration

Media: Soil/Generic

Document Reference: Environmental Science and Engineering, Inc. "Final Report, Phase I - Immediate Assessment, Acme Solvents Site." Technical report of approximately 40 pp. submitted to the Acme Solvents Technical Committee. November 1985.

Document Type: Contractor/Vendor Treatability Study

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Site Name: Acme Solvents Site (NPL)

Location of Test: Rockford, IL

BACKGROUND: *This is a site assessment and feasibility* dy of incineration alternatives at the ACME Solvents Site at Rockford, Illinois. The document contains laboratory results that are reported to simulate incineration conditions but no details on test methods were provided.

OPERATIONAL INFORMATION: The document summarizes the geophysical investigation, the delineation of the contaminated zones and their volumes and the sampling locations. Out of 43 samples taken at 18 locations, 20 were selected to be sent to an environmental laboratory for analysis of percent moisture (volatiles), percent ash, total chloride, total sulfur, Btu value and total PCBs. Two samples were analyzed for organic priority pollutants, pesticides and PCBs. No details on test methods were provided. Details on the soil matrix of each sample were summarized (the majority are silty soil). The ash from each of the 20 samples was analyzed for EP toxic metals. The data from these 20 samples is summarized as well as the more complete analysis results from the two samples.

basic data was used in an analysis of feasibility, costs and relative merits of off-site and on site incineration of the contaminated site material. Specific alternatives are costed for an on site rotary kiln and an off-site rotary kiln.

PERFORMANCE: The laboratory test on the soil for EP toxicity showed the resulting ash/decontaminated soil was consistently well below EPA limits for hazardous wastes classification. Heavy metal levels in the decontaminated ash ranged from a high of 2.26 mg/l for Cr to a low of less than .009 mg/l for Se. All were well below the EP toxicity levels defined in 40 CFR 261.4 except for chromium which is about 50% of the allowed EP toxicity level of 5 mg/l. PCBs were reduced from 3600 to less than 4 µg/kg dry. There are no details provided on the laboratory incineration process, sampling protocols, QA/QC protocols or conclusions.

The economic analysis comparing onsite and off-site incineration showed onsite incineration could be accomplished at one-third the cost and with the same implementation time as the off-site incineration.

CONTAMINANTS:

Analytical data is provided in the treatability study report. The breakdown of the contaminants by treatability group is:

Treatability Group	CAS Number	Contaminants
W02-	12674-11-2	PCB-1016
Dioxins/Furans/PCBs	11096-82-5	PCB-1260
W05-Halogenated	57-74-9	Chlordane
Cyclic Aliphatics/Ethers/	58-89-9	Gamma-BHC(Lindane)
Esters/Ketones		
W08-Polynuclear	83-32-9	Acenaphthene
Aromatics	91-20-3	Naphthalene
	85-01-8	Phenanthrene
	86-73-7	Fluorene
W09-Other Polar	117-81-7	Bis(2-ethyhexyl) phthalate
Organic Compounds	85-68-7	Butylbenzylphthalate
	84-74-2	Di-n-butylphthalate
	117-84-0	Di-n-octylphthalate
	78-59-1	Isophorene
	108-95-2	Phenol
W10-Non-Volatile	7440-39-3	Barium
Metals		
W11-Volatile Metals	7439-92-1	Lead
	7439-97-6	Mercury
	7440-22-4	Silver
	7440-43-9	Cadmium

NOTE: Quality assurance of data may not be appropriate for all uses.

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