

**A Compendium of Worldwide Dioxin Levels**

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**Introduction**

In 1998, The Forrester Group and JHE Technology Systems performed a literature review to summarize available, practiced, and proposed dioxin remediation cleanup values in soils and sediments. The review also included research on available levels of dioxins found in terrestrial, riparian, estuarine, and oceanic environments. The goal was to provide a comprehensive summary of the current status of dioxin cleanup values throughout the world. The final document also included a review of worldwide maximum allowable daily intake values for dioxin and trends in dioxin remediation technologies.

**Material and Methods**

The review was based upon information obtained from the United States Environmental Protection Agency, the United States Corps of Engineers, Internet research, state environmental agencies within the United States, scientific journals, and personnel communication with a variety of environmental agencies throughout the world. It was also based upon personnel experience at a number of dioxin sites in the United States and Germany.

Dioxin data was readily accessible for a variety of sites within the United States. Data for Western Europe was more difficult to access. Data for Asia, Eastern Europe, and Central and South America was extremely limited.

**Results and Discussion**

Table 1 provides practiced and proposed cleanup values for sediments and soils throughout the world. The majority of these values are for soils at sites located within the United States. The issue of dioxin-contaminated sediments has only recently begun to receive attention, and such information is limited. This research is on-going as new sites are discovered worldwide and as regulatory agencies continue to review the impact of dioxin upon human health and the environment.

# Environmental Levels in Sediment, Sewage, Sludge and Food

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Table 1  
Practiced and Proposed Clean-up Levels for Dioxin in Soils and Sediments

SITE NAME	LOCATION	MEDIA	PRACTICED CLEAN-UP LEVEL (ppb)
Air Force Project	MS - USA	soil	0.1
American Cresote Works	FL - USA	soil	0 - 20
American Crossarm & Conduit Co.	WA - USA	soil	0.0067
Arkwood, Inc.	AR - USA	soil	20
Broaderick Wood Products	CO - USA	soil	0.6
Coal Creek AKA Ross Electric	WA - USA	incinerator ash and solids	< 1
Coleman-Evans Wood Preserving	FL - USA	soil	0.007
Diamond Alkali	NJ - USA	soil	7
Eastern Diversified Metals	PA - USA	soil	20
Ellisville Site Area	MO - USA	soil	1
Escambia Treating Company	FL - USA	soil	0.2
J.H. Baxter & Co.	CA - USA	soil	1
Jackson Municipal Landfill	AR - USA	soil	10
Koppers	NC - USA	soil	7
Koppers Oroville Plant	CA - USA	soil	1 - 30
Libby Groundwater	MT - USA	soil	1 - 20
Love Canal	NY - USA	soil	1
MacGillis & Gibbs/Bell Lumber	MN - USA	soil	1
Marzone/Chevron Site	GA - USA	soil	0.2
McClellan Air Force Base	CA - USA	soil	1
Minker/Stout/Romaine Creek	MO - USA	soil	1 - 20
NAS Whidbey Island	WA - USA	soil	0.0067
Naval Seabees Center	MS - USA	soil	0.005
Ogden Defense Depot	UT - USA	soil	1
Pristine	OH - USA	soil	1
Rogers Road Municipal Landfill	AR - USA	soil	1 - 10
Salem Acres	MA - USA	soil	1
Selma Pressure Treating	CA - USA	soil	1
Shenandoah Stables	MO - USA	soil	1
Silresim Chemical	MA - USA	soil	1
Syntex Facility	MO - USA	soil	20
Texarkana Wood Preserving	TX - USA	soil	20
Times Beach	MO - USA	soil	1
United Creosoting	TX - USA	soil	1 - 20
Various Superfund sites	MO - USA	soil	1

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Vertac	AR - USA	soil	1
SOURCE	LOCATION	MEDIA	PROPOSED CLEAN-UP LEVEL (ppb)
United States Army Corps of Engineers	United States	sediment	1
United States Environmental Protection Agency - Region X	United States	sediment	0.004
Wisconsin Department of Natural Resources	United States	sediment	0.001
SOURCE	LOCATION	MEDIA	PROPOSED CLEAN-UP LEVEL (ppb)
Washington State Department of Ecology	United States	sediment	0.0067
New Jersey Department of Environmental Protection	United States	sediment	3.3 - 20.4 OC - fish
New York State Department of Environmental Conservation	United States	sediment	10 OC - humans 0.2 OC - wildlife
International Joint Commission, Great Lakes Science Advisory Board	United States/Canada	sediment	0.01
Environment Canada/Pacific Yukon Region	Canada	sediment	0.01
British Columbia Province	Canada	soil	1 - residential 0.01 - agricultural
Hamburg Department of Environment	Germany	sediment	0.005 - 0.01
	Germany	soil	10 - industrial 1 - residential 0.1 - agricultural
	Italy	soil	0.04 - residential 0.005 - agricultural
Moss-American Superfund site, Wisconsin	United States	sediment	0.33 OC
Homebush Bay Area	Australia	sediment	5

NOTES:

In most instances, the cleanup level is applied either specifically to the 2,3,7,8-TCDD isomer, or to the TEQ.

OC = normalized to organic carbon.

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