



Public Health Assessment for

**KOPPERS WOOD TREATING COMPANY
(a/k/a GALESBURG/KOPPERS COMPANY)
GALESBURG, KNOX COUNTY, ILLINOIS
EPA FACILITY ID: ILD990817991
MAY 19, 2004**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE**

Agency for Toxic Substances and Disease Registry

THE ATSDR PUBLIC HEALTH ASSESSMENT: A NOTE OF EXPLANATION

This Public Health Assessment was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) section 104 (i)(6) (42 U.S.C. 9604 (i)(6)), and in accordance with our implementing regulations (42 C.F.R. Part 90). In preparing this document, ATSDR has collected relevant health data, environmental data, and community health concerns from the Environmental Protection Agency (EPA), state and local health and environmental agencies, the community, and potentially responsible parties, where appropriate.

In addition, this document has previously been provided to EPA and the affected states in an initial release, as required by CERCLA section 104 (i)(6)(H) for their information and review. The revised document was released for a 30-day public comment period. Subsequent to the public comment period, ATSDR addressed all public comments and revised or appended the document as appropriate. The public health assessment has now been reissued. This concludes the public health assessment process for this site, unless additional information is obtained by ATSDR which, in the agency's opinion, indicates a need to revise or append the conclusions previously issued.

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Koppers Wood Treating Company
(a/k/a Galesburg/Koppers Company)

Final Release

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(a/k/a GALESBURG/KOPPERS COMPANY)**

GALESBURG, KNOX COUNTY, ILLINOIS

EPA FACILITY ID: ILD990817991

Prepared by:

**Illinois Department of Public Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry**

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Summary

The Koppers Wood Treating Company (Koppers) site is an active wood-treatment facility about 2 miles south of Galesburg, Illinois. For nearly 100 years the facility has treated "green" railroad crossties with organic chemicals. The site was placed on the National Priorities List (NPL) in September 1983 and since that time has undergone extensive testing and remedial activities.

Contaminated soil and sediments on the site have been remediated; however, contaminated groundwater still exists on the site. To date, off-site private drinking water wells have not been affected, and a groundwater-treatment system on the site should reduce the level of groundwater contamination over time.

The Illinois Department of Public Health (IDPH) concludes that the site poses no public health hazard. Currently, no one is being exposed to chemicals at levels that would be expected to cause adverse health effects.

IDPH recommends that the Illinois Environmental Protection Agency continue to monitor groundwater-remediation activities as planned to ensure that they continue to be effective in reducing groundwater contamination

Purpose

The Agency for Toxic Substances and Disease Registry (ATSDR) requested that the Illinois Department of Public Health (IDPH) complete a public health assessment for the Koppers Wood Treating Company (Koppers) site. In September 1992, ATSDR issued an initial release public health assessment (1) prepared by IDPH, but no final release of this document was made. The purpose of this public health assessment is to update the status of the site and to evaluate, based on information currently available, any known or potential adverse human health hazards related to the site.

Background and Statement of Issues

Site Location

The Koppers site occupies about 105 acres in a rural area approximately 2 miles south of Galesburg in Knox County, Illinois (Figure 1). The active wood-treatment facility treats "green" railroad cross-ties with heat, pressure, creosote, and coal tar to make about one million railroad ties per year. The current tie-treating area occupies about 2 acres of the site. Most of the remaining property is used to store railroad ties.

The site is bounded on the west by Illinois Route 41 and on the north by Burlington-Northern railroad property (Figure 2). North and east of the site is a Burlington-Northern rail yard. The site is bordered by railroad tracks on the south. On-site ditches carry surface water off the site to Brush Creek, which flows southeast and empties into Lake Bracken about 2 miles downstream.

Directly southeast of the site, across the railroad tracks, is Steagall Landfill. In December 1988, IDPH released a public health assessment for Steagall Landfill and concluded that the integrity of the landfill was questionable because it was not properly closed and capped. Leachate from the landfill, and runoff from the Koppers site, were entering Brush Creek and carrying hazardous materials, including polychlorinated biphenyls (PCBs), to Lake Bracken. IDPH recommended that Steagall Landfill be properly capped and that leachate be prevented from reaching Brush Creek. Area residents were advised to avoid contact with Brush Creek sediments, and a fish advisory was established for Lake Bracken. Area farmers were advised not to allow livestock to use Brush Creek as a water source (2). Since that time, the landfill has been capped and a leachate collection system has been installed. The fish advisory continues for Lake Bracken.

The nearest rural home is about 0.25 miles east of the site and east of Steagall Landfill. Across the tracks and about 0.5 miles south along Illinois Route 41 are six more rural homes. Several other rural homes are within a 1-mile radius of the Koppers site. These homes use private wells for their drinking water supply.

Site History

The Koppers site began operation in 1907 as a wood-treatment facility and was operated by the Burlington-Northern Railroad until December 1966. In the past, a 50:50 blend of creosote and number 6 fuel oil was used to treat the wooden railroad crossties. Today, various creosotes and creosote blends are used (3).

In 1965, a citizen complaint led to an investigation of disposal practices at the facility. In December 1966, Koppers Company leased the production plant from Burlington-Northern and took over operation of the facility. Wastewater from the tie-treatment process was discharged to creosote lagoons and from there to Brush Creek. In 1970, sampling of Brush Creek showed phenol contamination (3).

Once Koppers Company took over the facility, they changed many of the waste-handling practices. They closed and cleaned the lagoons, began recycling instead of disposing of used oil, and installed wastewater spray fields. From 1971 to 1976, pentachlorophenol (PCP) was used in one of the pressure treatment cylinders (3).

In December 1982, the Koppers site was proposed for inclusion on the National Priorities List (NPL) and was listed in September 1983. Chemicals of interest in the various environmental media were PCP, naphthalene, phenols, and polycyclic aromatic hydrocarbons (PAHs). The contaminated areas and media at the Koppers site included:

- < a slurry pond,
- < two creosote lagoons,
- < a PCP lagoon,
- < a waste pile storage area,
- < the drip track area,
- > two backfilled drainage ditches,
- < two former spray wastewater fields,
- < shallow and deeper groundwater,
- < surface water, and
- < on-site and off-site sediment (4).

In 1983, the PCP lagoon was pumped dry, the water treated, and contaminated soils removed and disposed of off the site. A Record of Decision presenting the selected final remedial action for the site was signed on June 28, 1989 (4).

In late 1988, Koppers Industries, Inc. (now Koppers Inc.) purchased the assets of the wood treating division of Koppers Company (Beazer East, Inc.) and became the site operator. Koppers Company and Burlington-Northern Railroad retained liability for the environmental conditions resulting from past operations and since 1989, the facility has moved forward with remedial activities. In December 1991, about 5,000 cubic yards of contaminated soil were removed from the drip track area and stored on the site in a lined storage cell for biologic treatment. In all, some

15,000 cubic yards of contaminated soil have been excavated and consolidated for on-site biologic treatment. Biologic treatment was conducted by "land farming," in which contaminated soil was spread over a 5-acre area and mixed with microbes, which digested and lowered the concentrations of organic contaminants. When soil treatment was successfully completed in late 1999, the "land farm" was closed, capped, and covered with grass.

Groundwater-interceptor trenches were installed in the southeastern portion of the site and air was injected into the aquifer to increase the level of dissolved oxygen in the groundwater. This allows for the reduction of PAHs in the groundwater through biologic degradation. For the deeper sand aquifer, magnesium peroxide was introduced to increase the oxygen level. Groundwater samples collected before, during, and after the pilot testing of this procedure showed PAHs in the aquifer were reduced from levels as high as 434 micrograms per liter ($\mu\text{g/L}$) to less than 8 $\mu\text{g/L}$ (5). Contaminated drainage-ditch sediments were removed and replaced with a concrete drainage channel.

This biologic groundwater-treatment system will operate until remedial objectives of the Illinois Environmental Protection Agency (Illinois EPA) and U.S. Environmental Protection Agency (USEPA) are met.

A preliminary close-out report was completed and approved in September 2001. USEPA reports that the site is currently in the Operations and Maintenance phase. Human exposure and groundwater migrations are currently under control (6).

Site Visits

IDPH staff have visited the Koppers site, Brush Creek, and nearby Steagall Landfill on many occasions. Several visits were made in the late 1980s and early 1990s, and again in 1999. The most recent site visit was on May 21, 2003. The Koppers facility continues operations and tens of thousands of "green" and treated railroad crossties are stored in stacks about 20 feet high. The "land farm" appeared to be covered with soil and vegetation.

At the western entrance to the facility on Illinois Route 41, IDPH staff noticed an odor of naphthalene coming from facility operations. Directly west of the Koppers entrance were three businesses: Smith's Garden Center, Glens' Storage, and Treasures Flea Market. These businesses are on the former Wickes Lumber Yard property. Six homes are about 0.5 miles south of the Koppers entrance along Illinois Route 41.

IDPH staff followed the path of Brush Creek south and then southeast to where it crosses Township Road 46 and empties into Lake Bracken, about 2 miles downstream from the site. New homes with private wells were being built along Township Road 46, about 1.5 miles southeast of the Koppers site. The northern side of Lake Bracken was lined with residential homes, a golf course, a boat launch, and other recreational facilities.

