

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

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Working with and through communities to address issues affecting the well-being of their environment.
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Environmental Laws: Toxic Substances Control Act (TSCA)

Toxic Substances Control Act (TSCA) requires U.S. chemical manufacturers, importers, processors, and distributors to notify EPA immediately after obtaining information on any of their chemical substances or mixtures that reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.

TSCA data can be used by all levels of government, public interest groups, the chemical industry, the public and other stakeholders to further assess and understand potential human health and environmental risks associated with exposure to chemical substances. TSCA 8(e) notices most often contain toxicity data but they may also provide information on exposure, environmental persistence or actions being taken to reduce human health and environmental risks. Summarized results or full studies assessing acute effects, reproductive and developmental toxicity, carcinogenicity, neurotoxicity, genetic effects are made available to the public as well as epidemiological studies, clinical studies, ecological studies and information on fish another aquatic species.

Copies of TSCA 8(e) and FYI submissions are available to the public in the TSCA Public Docket at EPA Headquarters where paper or microfiche copies of all TSCA 8(e) and FYI submissions are maintained and can be accessed by visiting the public reading room at EPA Headquarters or by contacting EPA.

Environmental Laws: Resource Conservation and Recovery Act (RCRA)

RCRA is the Resource Conservation and Recovery Act, which Congress enacted in 1976. RCRA's primary goals are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner. In 1984, Congress enacted the Hazardous and Solid Waste Amendments (HSWA) which significantly expanded the scope and requirements of RCRA.

Accidents or other activities at facilities that treat, store or dispose of hazardous wastes have sometimes led to the release of hazardous waste or hazardous constituents into soil, ground water, surface water, or air. Prior to HSWA, cleanup of such releases focused primarily on protecting groundwater from special kinds of RCRA-regulated land disposal units that received hazardous wastes after July 1982. HSWA made it clear that owners or operators of treatment, storage or disposal (TSD) facilities are responsible for investigating and, as necessary, cleaning up releases at or from their facilities, regardless of when the releases occurred. EPA refers to this cleanup of TSD facilities under these statutory authorities as RCRA Corrective Action.

RCRA Corrective Action is just one of the many tools EPA, States and Tribes use to address the cleanup and revitalization of our nation's hazardous waste sites.

This newsletter is being provided as a courtesy to the citizens of Crystal Springs by the Mississippi Department of Environmental Quality.

FREQUENTLY ASKED QUESTIONS

What are dioxins?

Dioxins are byproducts of a multitude of industrial processes, in which chlorine is present, such as municipal and medical waste incineration, chemical and plastics manufacturing, pesticide and herbicide production and pulp/paper bleaching. Burning household trash in your yard can contaminate your soil with dioxins. Extensive research on the environmental fate of dioxins indicates the following:

- Dioxins have low water solubility --If they get into water, the dioxins stick to the solid material and settle out. This is why dioxins are found in sludge
- Dioxins have low volatility --They do not vaporize, but remain bound to particulate matter --
- Dioxins bind strongly to the soil --

What are PCBs?

Polychlorinated biphenyls (PCBs) are mixtures of up to 209 individual chlorinated compounds. Because they do not burn easily and are good insulators, PCBs appeared in 1929 as coolants and lubricants in transformers, capacitors, and other electrical equipment, rather than occurring in nature (or being produced accidentally, as in the case of dioxins). The United States banned the manufacture of PCBs in 1977, but they are still found in the environment. Polychlorinated biphenyls (PCBs) range in appearance from oily liquids to waxy solids. There are 12 PCBs that are dioxin-like. PCBs are non-flammable, stable, has a high boiling point and exhibit electrical insulating properties.

When did the clean up of dioxins take place?

When Mississippi Department of Environmental Quality learned that there were areas of the Kuhlman property with both high and low PCB concentrations, the agency required that the soils also be analyzed for dioxins since dioxins are often associated with chlorinated compounds. Dioxins were detected at low levels (part per trillion range) in the soils that were analyzed. Because the dioxins act like PCBs with a strong affinity to attaches to the soil, the low level dioxins have been and will continue to be removed with the removal of the PCB contaminated soil to levels protective of human health.

Where might the data be for the air sampling inside the plant which demonstrates the coating on the floor is preventing the vapors from impacting the workers?

MDEQ does not have any data that demonstrates the floor coating inside of KEC is preventing vapors from impacting workers. However, indoor air sampling was conducted to evaluate risk to workers. The results from the Vapor Intrusion Survey are available at MDEQ office located at 515 East Amite Street in Jackson and on the MDEQ website at <http://bit.ly/d4muPP>. MDEQ required a Vapor Intrusion Survey because soil, soil vapor, and groundwater data provided by Borg Warner showed that volatile organic chemicals (VOC) were present beneath the facility and posed a potential vapor exposure pathway. On January 8, 2010, MDEQ received the Vapor Intrusion Survey Summary on Kuhlman Electric Corporation prepared by Environmental Management Services for Kuhlman Electric Corporation. Screening evaluations of the soil vapor and groundwater concentrations showed a low potential for risk to indoor air from vapor intrusion.

What are sources of dioxin?

There are multiple sources of dioxins in the environment. Dioxin is not intentionally manufactured; it is a by-product of combustion and production processes involving chlorine. Dioxins are released into the air from commercial, municipal, and residential waste incineration and from burning fuels like wood, coal or oil. Dioxins can also be formed when household trash is burned and during forest fires. Chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes all can create small quantities of dioxins. The levels of dioxins in the environment that may come from any of these sources but can not be linked to one specific source are called background levels.

FREQUENTLY ASKED QUESTIONS

What is groundwater contamination?

Groundwater contamination is a situation which arises when groundwater becomes polluted by substances of human origin. Since groundwater is generally regarded as safe to drink, groundwater contamination can become a serious issue, as people may drink the water, not realizing that it has become dangerous to consume. There are a number of potential sources of groundwater contamination, making regular testing of groundwater supplies critical to ensure that the water meets the Mississippi Department of Health drinking water standards.

How did the contaminants get in the groundwater?

Groundwater can become contaminated in many ways. If rain water or surface water comes into contact with contaminated soil while seeping into the ground, it can become polluted and can carry the pollution from the soil to the groundwater. Groundwater can also become contaminated when liquid chemicals themselves soak down through the soil or rock into the groundwater. Some chemicals do not mix with the groundwater but remain pooled within the soil or bedrock. These pooled substances can act as long-term sources of groundwater contamination as the groundwater flows through the soil or rock and comes into contact with them.

Can the groundwater be cleaned?

Given enough time, groundwater can be cleaned up. Groundwater remediation is a type of environmental cleanup which focuses on addressing pollution of groundwater supplies. The goal of a groundwater remediation plan is to turn polluted water into clean water. If the groundwater or source cannot be cleaned up, it will be necessary to contain the pollution to prevent spread so that people will not be exposed to danger and to prevent the spread of the pollutant, and to allow the pollution to naturally degrade over time.

Different approaches are used to clean up contaminated groundwater. Sometimes polluted groundwater is pumped from the soil or bedrock, treated to remove the contamination, and then pumped back into the ground. If contaminants are released into the groundwater slowly, large amounts of groundwater need to be pumped to remove a relatively small amount of contamination. In this case groundwater contamination is addressed by containing the contamination in a limited area to keep it from harming animals and plants. Still other types of contamination can be left in the ground without active pumping and treatment and allowed to naturally degrade. In these cases, contaminants are reduced to non-toxic concentrations by natural biological, chemical, and physical processes before the contamination reaches the surface.

The first step in groundwater remediation involves identification of the contaminants which are making groundwater unclean. Identification is important because the remediation plan will vary, depending on the type of pollution involved. It also allows the people performing the administration to identify the source of the pollution, as addressing the source is a critical part of a remediation plan.

When will a groundwater remediation plan be proposed?

MDEQ expects to receive a proposed groundwater remediation plan by October 31, 2010. The remediation plan usually involves removal or containment of the source so that contamination cannot continue, along with cleanup of the groundwater itself to remove the pollutant. A number of approaches can be used and the plan should contain the best method for pollutant removal. MDEQ will perform a technical review of this proposed plan and will either approve or disapprove the plan as submitted. If the plan is disapproved based on the technical review, Borg Warner will have to submit a revised plan.

If you have environmental questions you would like answered by MDEQ in the next newsletter, please fax them to Melissa Collier at 601-961-5674.