

TO: Thomas J. Kenney

Date: 6/22/90

FROM: Ralph J. Sczygelski

RE: The legally acceptable methods for disposing of coal tar.

Question Presented

What types of disposal are acceptable/legal for coal tar waste at the St. Louis River/Interlake Site?

Brief Answer

If the coal tar is K087 Tar Decanter Sludge, then it is exempt almost all of RCRA's regulations.

Discussion

Coal tar (K087) is listed under 40 CFR 261.32 as a hazardous waste from a specific source and is covered under the section 261.1 regulations. This means that it would be subject to Parts 262 through 265, 268, and Parts 270, 271, and 124 of 40 C.F.R. and the notification requirements of section 3010 of RCRA. However, 40 CFR 261.6(a)(3)(vii) makes an exception.

Section 261.6 Requirements for recyclable materials.

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraph . . . (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials".

. . .

(3) The following recyclable materials are not subject to regulation under Parts 262 through Parts 266 or Parts 268, 270 or 124 of this chapter, and are not subject to the notification requirements of section 3010 of RCRA:

. . .

(vii) Coke and coal tar from the iron and steel industry that contains Hazardous Waste No. K087 (Decanter tank tar sludge from coking operations) from the iron and steel production process;

40 C.F.R. Section 261.6 (emphasis added).



Basically, these provisions state that coal tar (K087) is not subject to major sections of the RCRA regulations. These sections provide the RCRA standards for generators, transporters, landfills, incinerators, recyclable materials, burning for energy recovery, land disposals, permitting, and the Section 3010 RCRA notification requirements. The reason for this exception can be found in the November 29, 1985 Federal Register.

EPA indicated in the proposed rule that it would consider granting an exception to coke produced from coal tar decanter sludge (EPA Hazardous Waste K087) if commenters provided data that demonstrate that hazardous contaminant levels in the coke are not appreciably increased by recycling the tar sludge. (See 50 FR 1690.) Today's rule exempts such waste-derived coke (a hazardous waste fuel even though not burned exclusively or necessarily primarily for energy recovery (see section III.A.1 above)) from regulation as hazardous waste and also excludes coal tar produced from coal tar decanter sludge.

Tar decanter sludge is generated during the recovery of a coal tar by-product produced during the production of coke from coal. The sludge is listed as hazardous waste because of high levels (about 1%) of phenol and naphthalene. The sludge is frequently recycled by mixing it with coal before it is charged to a coke oven to produce coke. The coke product is typically used as a fuel in steel blast furnaces. In addition, the sludge is sometimes mixed back into the coal tar by-product which is also used as a fuel. Both of these waste-derived fuels are exempted from today's rules for the reasons discussed below.

The American Iron and Steel Institute (AISI) and Koppers Company, Inc. provided comments explaining the coking operation and how tar decanter sludge (phenol and naphthalene) are driven off during the coking process along with other volatile compounds formed by the thermal cracking of organic compounds in the coal. These volatile compounds are condensed to recover a coal tar by-product. The tar decanter sludge is produced during recovery of the coal tar and consists of coal tar and "inert carbonaceous material carried over from the coking operation". AISI and Koppers provided analyses of the waste-derived coke product indicating that phenol and naphthalene were not detected in the coke at detectable levels ranging from less than 1 ppm to as high as 20 ppm.

We conclude that phenol and naphthalene are not present in such coke at levels that would pose substantial risk to human health and the environment, particularly considering that the coke is burned as fuel and that any trace levels of these compounds would be readily combustible.

AISI also indicates that the same principle (i.e., if recycling a waste does not increase levels of toxic constituents in a waste-derived product, the product should be exempt from regulation) should be applied to coal tar mixed with tar decanter sludge. AISI states that when tar

decanter sludge is mixed back into the coal tar (after passing through a ball mill to produce a uniform material), the phenol and naphthalene content of the coal tar itself contains significant levels of these hazardous compounds (typically 1% phenol and 10% naphthalene), and that tar decanter sludge is simply a mixture of coal tar and carbonaceous material. Further, the sludge is mixed with the coal tar in small volumes representing about 1% of the coal tar by-product. We, therefore, conclude that such recycling does not increase levels of phenol and naphthalene in the coal tar by-product and the coal tar should be exempt from today's rules when burned for energy recovery.

These exceptions apply only to the waste-derived products, and only when derived from tar decanter sludge. Thus, tar decanter sludge is subject to full RCRA regulation prior to recycling, and the exemption does not extend to coke or coal tar derived from hazardous waste (e.g., spent solvents) other than tar decanter sludge designated as EPA Hazardous Waste K087.

Vol. 50, Federal Register, No. 230. November 29, 1985 (emphasis added).

*by burning* If the substance at the Site is K087, then it can be disposed of without any regard to RCRA. However, the Clean Air Act may have some limitations on emissions from the burning of coal tar, and CERCLA may eventually provide for a cost-recovery action if the present disposal method creates a hazard.