

I. Disposal of Existing Stockpile of HF Tars

1. Use of existing acid disposal pit. The 3M Company has construction and operating permits from the Minnesota Pollution Control Agency (MPCA) to use this facility for the neutralization and ultimate disposal of HF tars. Use of this facility has been terminated because of possible ground water fluoride contamination resulting from leaks that have been detected in a nearby monitoring well. This is not a viable alternative for the disposal of the existing HF tars stockpile.
2. Construction of a new acid disposal pit or modification of existing biological sludge holding tank for use as an acid disposal pit. Minnesota solid waste regulations (Minn. Reg. SW6, Par. 3) require that 3M would have to obtain a permit for the construction and operation of this type of ultimate disposal facility. Such a facility cannot be put into operation until after these permits have been issued and background sample analysis reports have been submitted to the Agency from the facility monitoring well.
3. Neutralization in reconditioned biological sludge holding tank with ultimate disposal in a municipal landfill. The tank would be filled with lime slurry to neutralize the HF tars. The tars would then be fed into the tank by pouring them out of the storage drums. Deteriorated drums that were unsafe to handle or drums containing tars too stiff to pour would be crushed over the tank by means of a clam shell and then dumped into the tank. The contents of the tank would be stirred occasionally by means of the clam shell. After neutralization was believed to be complete, all liquid would be pumped out of the neutralization tank into the Chemolite wastewater treatment system and the remaining solids would be removed and hauled to a municipal landfill.
  - a. Air pollution regulations. The only air pollution regulation that could apply to this operation is Minn. Reg. APC 14. It is EE & PC's judgement that the process of neutralizing HF tars would not produce acid emissions of such quantity as to violate the provisions of this regulation.
  - b. Water pollution regulations
    1. The neutralization process should be considered as a process for rendering solid waste acceptable for disposal in a landfill. As such, no permits would be required from MPCA for the modification and subsequent operation of the existing wastewater treatment facility.
    2. Pumping of the lime slurry out of the neutralization tank into the wastewater treatment system must be regulated so that the stream standard for fluoride will not be violated in the Mississippi River. This can be insured if the flow is so regulated that the total Chemolite wastewater discharge has a fluoride concentration of 1.5 mg/l or less.

Exhibit  
1116

State of Minnesota v. 3M Co.,  
Court File No. 27-CV-10-28862

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c. Solid waste regulations

1. From (b)(1) above, the neutralization process (and facility) should be considered as a process (and facility) for rendering solid waste acceptable for disposal in a landfill. Par. 116.081 of the MPCA Law (Chapter 116, Laws of 1969; Amended by Chapter 727, Laws of 1972; Chapters 35 and 412, Laws of 1973; and Chapter 483, Laws of 1974) and Minn. Reg. SW9 can be interpreted to require a permit for such process (and facility). EE & PC contacted the MPCA Solid Waste group to check on the applicability of the existing law and regulations to the general case of a material unsuitable for landfill being treated to render it suitable for ultimate disposal at a landfill. The MPCA staff said that no permit would be required.
2. Section (2)(v) of Minn. Reg. SW6 requires approval from the MPCA before the neutralized tars can be deposited in any landfill. This does not mean that 3M will have to provide the State with any details about how the tars are produced or neutralized. According to the regulation and conversations with the MPCA Solid Wastes staff, approval is only based on the characteristics of the material as delivered to the landfill. Approval will be based on consideration of such factors as chemical composition, leachate data, free moisture content, and workability. As Section (2)(v) of Minn. Reg. SW6 prohibits the depositing of hazardous materials in landfills, it will not be possible to obtain approval for the landfilling of the neutralized tars unless no mention of HF is made in the application for approval. Without actually saying so, 3M will, in effect, be stating that the tars to be landfilled will not contain any HF. This will require 3M to develop and adhere to procedures and precautions that will insure all tars have definitely been rendered harmless before they are taken to a landfill for disposal. Of particular concern are the tars contained in crushed drums and large pieces of tar because it is reasonable to assume that intimate contact has not occurred between the lime and some portions of the tar.
4. Neutralization in new tank with ultimate disposal in a municipal landfill. The only difference between this alternative and alternative 1.3. above is that a new tank would be constructed for carrying out the neutralization step instead of using a reconditioned biological sludge holding tank. The same laws and regulations would apply.

II. Disposal of HF Tars on a Continuing Basis

1. Continuation of stockpile.

- a. Air pollution regulations. The only air pollution regulation that could apply to this operation is Minn. Reg. APC 14. It is EE & PC's judgement that the storage of HF tars in drums would not produce acid emissions of such quantity as to violate the provisions of this regulation.

b. Water pollution regulations. Under the provisions of the Minnesota Pollution Control Act (Minnesota Statutes, Section 115.43, subparagraph 3, and Minn. Reg. WPC 4, a permit is required for the storage of the HF tars only if there is any possibility that such storage or an accident associated with such storage could cause pollution of ground or surface waters. It was reported by Dean Siddoway of the Pollution Control Facilities Engineering Department on 2/4/75 that such a possibility does not exist because:

1. Any HF getting onto dry ground would rapidly vaporize and would not exist in the liquid state long enough to be able to reach a surface water.
2. The HF tars are highly viscous and would not be able to flow to a surface water.
3. If it rained during or just after a spill of HF tars, the concentration of fluoride and the effect on pH in the stormwater runoff would be low due to the small amounts of HF involved.
4. The HF tars are very viscous and could not percolate into the soil, thus no contamination of the groundwater with the tar could occur.
5. Any HF seeping into the ground would be neutralized by naturally occurring alkalinity in the soil so no effects on groundwater pH would be expected. The amount of fluoride getting to the groundwater would be almost zero due to the ion exchange capacity of the soil and the small amounts of fluoride involved.

The above discussion is predicated on the idea that no storm drains, storm ditches, or surface water streams either exist on or near the storage site. If they do, arrangements must be made to move the site to a more suitable location.

- c. Solid waste regulations. HF tars would be classified as hazardous waste in accordance with Minn. Reg. SW2. Par. 2 of Minn. Reg. SW2 relates to the storage of such materials. The owner and occupant of any industrial property is responsible for the storage of all wastes at that premise. Toxic or hazardous wastes must be stored in proper containers that are adequately labeled in a safe location. No permit nor MPCA approval is required.
2. Batch neutralization of tars as they are generated with ultimate disposal at a landfill. The same laws and regulations apply to this case as apply to case I.3. above.