DNREC/EPA
Fact Sheet #8
April 7, 2003

Metachem Products, LLC
Major Decontamination Effort Proposed –
Chlorobenzene Removal and Separation Project (CR/SP)

Background

Since Metachem abandoned its manufacturing facility on May 14, 2002, EPA and DNREC have conducted a wide variety of containment, decontamination, and stabilization activities. Most recently, as part of the Chemical Process Area Decontamination Project (see Fact Sheet #5), EPA and DNREC successfully removed more than one million pounds of chemicals from the process area and transferred them to more secure storage facilities, thereby reducing the potential for spills.

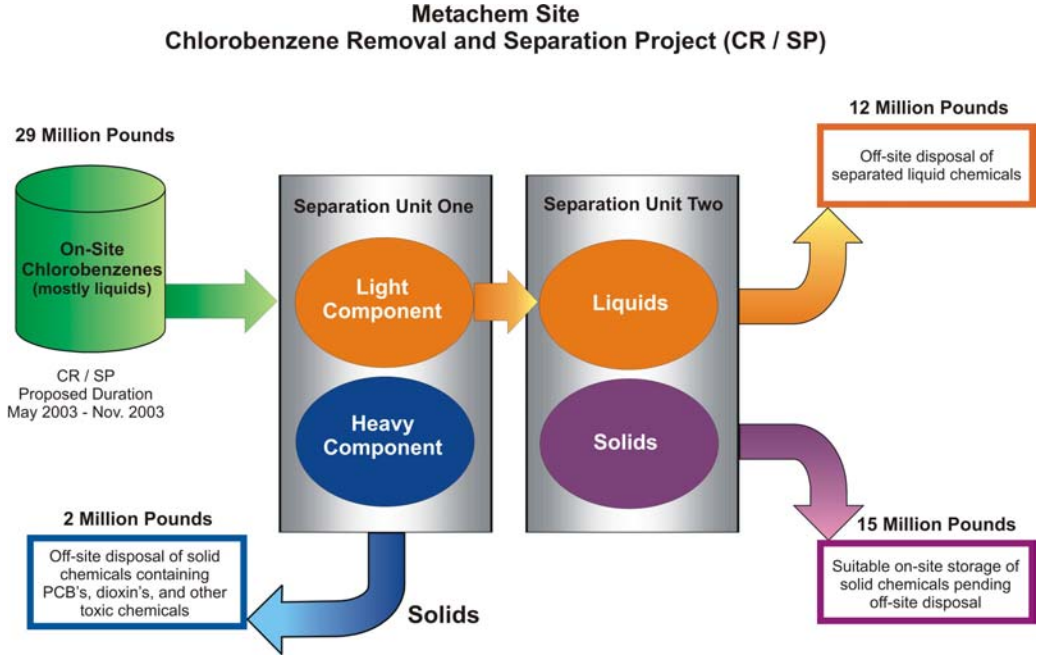
These chemicals are part of the 40 million pounds of mostly liquid material, including former process chemicals, products, and wastes that are currently stored at the site awaiting further action. This includes more than 29 million pounds of chlorobenzenes, of which 70% are potentially contaminated with polychlorinated biphenyls (PCBs). The liquids pose the greatest immediate long-term threats to human health and the environment at the site because of the potential for spills.

Although all liquids are currently secure, the Metachem site has inadequate long-term storage facilities for all this material. Further, it is very difficult to dispose of this material "all at once," given the large quantity and hazardous characteristics. Consequently, EPA and DNREC evaluated various options to address the liquid storage and disposal challenges at the site, including: (1) as-is disposal; (2) materials blending; (3) materials solidification; (4) materials separation; and (5) materials processing.

EPA and DNREC are proposing a materials separation approach (known as the Chlorobenzene Removal and Separation Project) as the most timely and cost-effective means to safely reduce site risks posed by the chlorobenzene liquids, and to expedite future decontamination actions at the Metachem site. This approach was selected based on considerations for process safety management, potential for accidental releases, and other health & safety and environmental concerns. The other materials remaining on-site after the CR/SP will be addressed by future actions.

Proposed Chlorobenzene Removal and Separation Project (CR/SP)

EPA and DNREC will separate 29 million pounds of chlorobenzene chemicals using existing plant equipment specifically modified for this project. The process (see schematic below) will separate liquids and solids that are more manageable for short-term off-site disposal (liquids and PCB/other toxic solids) and longer-term on-site storage (other solids).



The chlorobenzene materials have been gathered into storage tanks from several on-site locations, or are located in existing vessels and process tanks. These are either materials that were in the manufacturing process when Metachem abandoned the facility, or materials transferred from railcars, drums, and tanks.

The project will be conducted in the distillation area of the plant, using existing columns (see photo). The two-stage separation process will operate under closed vacuum conditions at 130° C, and most vapors will be collected and condensed in the separation process, with some vapor venting to the atmosphere.

The end products of the process will include: (1) PCBs, tetrachlorobenzene, and other toxic solid materials; (2) a liquid mixture of monochlorobenzenes, dichlorobenzenes; and some trichlorobenzenes; and (3) a solid mixture of trichlorobenzenes and tetrachlorobenzenes. The liquid and toxic solid materials (items 1 and 2) can be disposed off-site as part of the CR/SP project, thereby significantly reducing the risk posed by the on-site presence of these materials. The other solid materials (item 3), which will pose less of a risk, will be stored on-site pending future off-site disposal determination.

EPA and DNREC hope to start the CR/SP operation in late May 2003, and it is expected to take 6 months to complete. The project duration may also be shortened, pending on-going detailed analysis of tank contents. However, the project will not proceed until all critical process equipment has been successfully tested.

CR/SP Preparation

- EPA and DNREC, with the help of contractors and former Metachem employees hired for their expertise, are currently inspecting and evaluating all of the pipes, tanks, valves, flanges, instrumentation, and other related equipment associated with the CR/SP. Modifications, maintenance, and repairs, are underway. A pre-startup equipment check-off list has been developed to ensure all the equipment involved in the process has been checked and is in working order. Each individual piece of equipment and related system will be tested.
- EPA and DNREC are developing Work Plans and an Operations Plan that include information about the specific equipment involved in the project, as well as operating and monitoring procedures to ensure the separation process is working safely and efficiently. A special emphasis of these plans is the development of emergency shutdown procedures, as well as a emergency contact list.
- The CR/SP Training Program is underway. Employees are being trained in two primary areas: (1) separation theory technical training; and (2) CR/SP safety and process hazard analysis training.
- EPA and DNREC will implement an Air Monitoring Plan and conduct around the clock air monitoring throughout the project. Unacceptable emissions, as defined by the CR/SP plans, will result in modifications or shutdown of the process.
- The liquid and toxic solid materials generated during the CR/SP will be stored in suitable containers until off-site disposal is arranged by EPA and DNREC during the CR/SP. Other solid materials will be stored in containers suitable for long-term storage at the Metachem site, pending disposal determination in the future.

NOTICE OF PUBLIC AVAILABILITY SESSION

EPA and DNREC will conduct a public availability session about the proposed Chlorobenzene Removal and Separation Project at Southern Elementary School (795 Cox Neck Road, Delaware City) on Thursday April 10, 2003, from 6:30 to 8:30 p.m. EPA and DNREC officials will be available to discuss the CR/SP with the community during this time. In addition, an informal presentation (15 minutes) about the project will occur at 7:30 p.m.

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For additional information about the project, visit the following websites:
EPA's web sites: www.epaosc.net/Metachem and www.epa.gov/reg3hwmd/super/DE/standard-chlorine-de/
DNREC's web site: www.dnrec.state.de.us/DNREC2000/Divisions/AWM/do/metachem.asp