

Letter Health Consultation

CHEMSERVE CORPORATION

DETROIT, MICHIGAN

MARCH 25, 2008

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation 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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LETTER HEALTH CONSULTATION

CHEMSERVE CORPORATION

DETROIT, MICHIGAN

Prepared By:

Michigan Department of Community Health
Under Cooperative Agreement with the
U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry



STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

JANET OLSZEWSKI
DIRECTOR

March 11, 2008

Mr. Steven Chester, Director
Michigan Department of Environmental Quality
Sixth Floor, Constitution Hall
525 W. Allegan Street
P.O. Box 30473
Lansing, Michigan 48909-7973

Dear Mr. Chester:

Thank you for your letter of February 25, 2008, regarding a request from the Michigan Department of Environmental Quality (MDEQ) for assistance in issuing an imminent hazard order pursuant to Section 11148(1)(a) of Part 111, Hazardous Waste Management (Part 111), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

The Michigan Department of Community Health (MDCH) has determined that the storage of hazardous waste at the ChemServe Corporation property located at 9505 Copeland Street, Detroit, Wayne County, Michigan poses an imminent and substantial hazard to the public's health. The MDCH has based this determination on information provided by the MDEQ, the US Environmental Protection Agency, and the city of Detroit Fire Department, Fire Marshal Division. Please see the enclosed justification.

If you have any questions or concerns in this matter, please contact Dr. Linda D. Dykema, Manager, Toxicology and Response Section at 517-335-8566.

Sincerely,

A handwritten signature in cursive script that reads "Janet Olszewski".

Janet Olszewski
Director

Enclosure

cc: Jean Chabut, MDCH
Corinne Miller, MDCH
David Wade, MDCH
Linda D. Dykema, MDCH

Determination of Imminent and Substantial Hazard ChemServe, Detroit, Wayne County, Michigan February 27, 2008

Purpose and Statement of Health Issues

The Michigan Department of Environmental Quality (MDEQ) requested the assistance of the Michigan Department of Community Health (MDCH) in issuing an imminent hazard order pursuant to Section 11148(1)(a) of Part 111, Hazardous Waste Management, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Section 11148 of Part 111 provides for the MDEQ to consult with the MDCH and for the MDCH to make a determination of an imminent and substantial hazard that endangers the public health. Section 333.2251 of Article 2, Part 22 of The Public Health Code, 1978 PA 368, as amended, provides the authority for the MDCH Director to make a finding of imminent danger to the public health. MDEQ has information that the mismanagement of hazardous chemicals at the ChemServe Corporation (ChemServe) property may pose a hazard to on-site workers, near-by residents and to emergency response personnel.

Site Description and Background

The ChemServe property covers about three acres and is located at 9499 and 9501 Copland Street, Detroit, Michigan, having a mailing address of 9505 Copeland Street, Detroit, Wayne County, Michigan. ChemServe manufactures dyes and soap and has been in operation since 1968, however there is limited information regarding the site history. State of Michigan records indicate that ChemServe has been cited by the MDEQ under Part 111 at least six times from October 2005 through August 2007 (Weston 2007a). Violations include:

- Failure to characterize waste streams.
- Improper accumulation and off-site disposal of liquids from a fire.
- Improper accumulation and storage of off-specification chemicals.
- Failure to provide industrial waste manifests.
- Failure to close or cover laboratory sample waste.
- Improper storage/management of liquid industrial waste.
- Possible unauthorized storage of hazardous waste.

Chemical and Physical Hazards

The U.S Environmental Protection Agency (EPA), supported by a Weston Solutions, Inc. Superfund Technical Assessment and Response Team (START), conducted a site walk-through of the ChemServe site on October 31, 2007. EPA and Weston returned on November 14, 2007, for additional reconnaissance and sampling.

Access to the site is currently unrestricted. There is no fence to the south, and the remaining fence surrounding the property is in disrepair. As shown in Figure 1, there are numerous breaks in the fence line allowing trespassers to access the site (Weston 2007a).

The Weston START team noted significant amounts of chemicals stored at the site including; acids, caustic soda, soda ash, ammonia, oxidizers such as hydrogen peroxide, formaldehyde,



Figure 1. (Weston 2007a)

calcium chloride, ethylene glycol, ethylene ether, mineral spirits, gasoline, used oil, argon, propane, compressed oxygen, and mercury (Weston 2007b).



Figure 2. (Weston 2007b)

Weston estimates that there are currently more than 3,300 55-gallon drums of material present on the ChemServe site as well as totes (57), bags (322 pallets), and tanks (82).

Labeling on these containers indicates they contain corrosive and flammable chemicals. Significant amounts of these materials have no labels or the labels do not match the contents. Significant amounts of the drums are in poor condition and are stacked three to four high (Figure 2).

Weston entered one area of the site, designated as Area 27, that the owner indicated had been sealed shut for more than 10 years and found approximately 300 stacked and deteriorating drums (Figure 3). Consistent with the rest of the site, Area 27 exhibited buildings with collapsed ceilings or no ceiling whatsoever, and stored materials in exposed conditions (Weston 2007b).

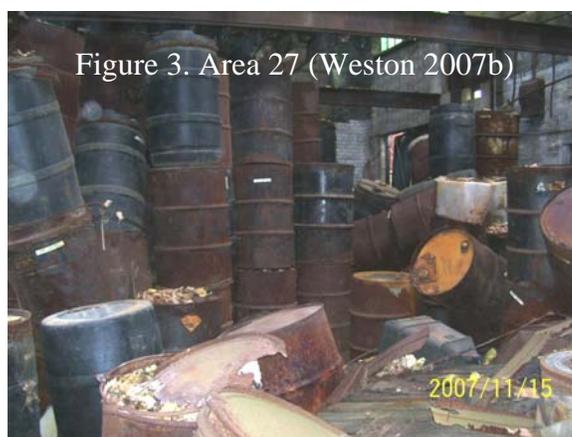


Figure 3. Area 27 (Weston 2007b)

There is a laboratory located in the interior of the main building where at least 3,500 containers of laboratory chemicals are stored (Figure 4), most with little labeling (Weston 2007b).



Figure 4. Laboratory (Weston 2007b)

The city of Detroit Fire Department (DFD) responded to a fire at the ChemServe property in June 1997. One hundred fire fighters were injured in this incident, which closed highway I-75 and released chemical fumes into a near-by residential neighborhood. According to the fire department reports, the owner of ChemServe was unable to help in identifying the chemicals involved in the fire and could not provide any inventory of the materials stored nor any account of the material released or spilled due to the fire (Kelly, Brian, Federal On-Scene Coordinator, EPA, Emergency

Response Branch, Grosse Ile, Michigan. Personal Communication. December 5, 2007).

The most recent fire was in October 2007 (Weston 2007a). The DFD Fire Marshal Division inspected the property on October 31, 2007. The complaint report indicates that there are physical hazards throughout the facility that are made worse by chemicals leaking as a result of poor storage practices and container corrosion. The report also notes that leaks in the roof of the main building have compromised chemicals stored on the first floor, that the building does not

have a fire suppression system or emergency lighting, and that “makeshift” heaters were being used in the office areas (DFD 2007).

On November 15, 2007, Weston collected 14 samples of solid and liquid waste. Samples were tested for characteristic hazards such as reactivity, corrosivity, and ignitability. Six samples had pH values of less than 2.0 (acid) or higher than 12.5 (basic) pH units, indicating that these wastes are corrosive. Corrosive substances can produce irreversible tissue damage following a single application to the skin or eyes.

Waste samples were also subjected to the toxicity characteristic leaching procedure (TCLP) for metals, volatile chemicals, and semivolatile chemicals. No samples exceeded the limits for these tests, however the presence of surfactants and pure product resulted in detection limits that exceeded the TCLP limits in three samples (Weston 2007b).

Current completed exposure pathways at the ChemServe site include direct contact and inhalation exposures for on-site workers and trespassers. People who enter the site are exposed through inhalation of particulates and volatile emissions from uncontained waste and products. People may also be exposed to corrosive materials if they touch or handle uncontained wastes or products.

Potentially completed exposure pathways include exposure to airborne emissions from explosion and/or fire. On-site workers, emergency responders, and near-by residents including children at school or on the adjacent playground could be exposed to pyrolysis products of burning chemicals. In addition, physical hazards are present at the site that would create additional hazards for first responders called to the site for a fire and/or explosive emergency situation.

Near-by Land Use

The ChemServe site is bounded to the west by industrial property, to the north by railroad tracks and interstate 75 (I-75), to the south by a Detroit Water and Sewage Department wastewater treatment plant, and to the east by industrial property and a public park with a playground. The nearest residential home is approximately 700 feet to the northwest.



Figure 5. (Weston 2007b)

The Rouge River is approximately 2,500 feet to the southeast of the site. At least nine schools and five playgrounds are within a one-mile radius of the site. Figure 5 is a photograph taken through the ChemServe fence and shows an adjacent playground. (Weston 2007a). Children may access the site through breaks in the fence line.

Sixty-one (61) percent of the population within one mile of the site is considered low-income and 51 percent is minority (Kelly, Brian, Federal On-Scene Coordinator, EPA Emergency Response Branch,

Grosse Ile, Michigan. Personal Communication. December 13, 2007).

Conclusions

Hazardous chemicals and hazardous wastes improperly stored on the ChemServe property present an imminent and substantial hazard to public health. Thousands of containers of mislabeled, unknown, and potentially hazardous chemicals and hazardous wastes are present at the site. Testing of the contents of these containers indicates that at least some of the waste material is a hazardous waste due to its corrosivity.

In an emergency situation, chemicals kept on-site could ignite and would significantly exacerbate the intensity of fire and explosion, posing a substantial hazard to on-site workers, near-by residents, children on playgrounds or at school, and emergency response personnel. First responders to fires or other emergencies at the site, as well as ChemServe workers and the near-by residential neighborhood, could be endangered by airborne releases of unknown hazardous chemicals, or through release of chemicals in fire suppression water.

The ChemServe site is not adequately access restricted. There is no fence to the south, and the remainder of the fence line is in disrepair. Trespassers, particularly children, could vandalize the barrels or cause a fire or explosion. Several fires have occurred on the site as a result of trespassing. Additionally, contact with corrosive materials in drums stored outside the buildings could produce irreversible tissue damage.

Recommendations

- Immediately secure the ChemServe site to prevent trespass.
- Promptly characterize, remove, and dispose of waste materials present on the ChemServe site.
- Ensure that production activities at the ChemServe site are in compliance with all applicable and relevant health and environmental regulations.

References

Detroit Fire Department (DFD), Fire Marshall Division. 2007. Complaint Report for ChemServe Corporation. October 31, 2007.

Weston (Weston Solutions of Michigan, Inc.). 2007a. ChemServe Site Assessment Letter Report. November 9, 2007.

Weston (Weston Solutions of Michigan, Inc.). 2007b. ChemServe Site Assessment Report. November 30, 2007.

Certification

This ChemServe Letter Health Consultation was prepared by the Michigan Department of Community Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures. Editorial review was completed by the cooperative agreement partner.



Technical Project Officer, Cooperative Agreement Team (CAT),
Cooperative Agreement Program Evaluation Branch (CAPEB),
Division of Health Assessment and Consultation (DHAC), ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.



Team Leader, CAT, CAPEB, DHAC, ATSDR