

A 47 year old female employee was overcome with smoke when a fire broke out in a building where she was working.

This contractor was hired to remove asbestos containing tile and remove mastic glue left behind from the tile removal process located in classrooms and hallways on the second floor of a school in Nashville, TN. Envirowerks, LLC had 5 employees onsite conducting the work.

The accident occurred in the second-floor south corridor/hallway of the school. The accident took place while employees were engaged in the task of removing mastic glue from the hallway floor. They were spraying a chemical called CHEMSAFE 100 on the hallway floor, specifically designed as a mastic glue remover, and utilizing an electrically powered floor scraper (with a wire wheel) as part of the removal process. The dimensions of the south corridor, approximately 690 square feet, were determined from a blueprint of the second floor provided by MNPS Facility & Grounds Maintenance/Environmental Services Division, which works for the school. A recorded video was submitted to TOSHA by an anonymous individual. The video shows one employee spraying the CHEMSAFE 100 on the surface of the floor and partially on an extension cord that was plugged into the scraper in a school hallway. It shows another employee using the scraper and the victim using a squeegee on the surface of the floor.

Following the accident, interviews were conducted with employees, who were working alongside the victim, with onsite assistance of an interpreter. Interviews revealed that they had been present on the site for two days, engaging with the chemical and floor scraper for approximately 15 minutes each day. The employees disclosed that the floor tiles had already been removed before the application of CHEMSAFE 100 took place.

One of the employees, who was operating the floor scraper at the time of the accident, reported that he observed the extension cord about 1 foot away from the wall, plugged into the floor scraper, inadvertently coming into contact with the floor surface, resulting in a spark that swiftly ignited the fire. The other employee, who was working nearby, also confirmed seeing the spark and flames spread. Furthermore, the employees stated that the fire quickly spread across the surface of the hallway floor, eventually reaching the perimeter wall where a plastic asbestos containment was installed. The fire engulfed the plastic containment, causing the hallway to fill with dense black smoke.

The employees stated that the victim and another employee, escaped to the girl's restroom on the second floor as the other three employees escaped to the southwest stairwell. From the stairwell, the employees called out to the victim and other employee advising them to head towards the southwest stairwell in order to evacuate to the parking lot on the west side of the school. One employee was able to make it to the stairwell, but the victim was unable to make it and became trapped in the girl's restroom due to the smoke and could not evacuate to safety. As stated by the employees, the conditions became too dangerous for them to attempt a rescue, as the smoke had become too thick, posing a significant risk to their own safety.

During the inspection, it was observed that the floor scraper was charred, and all the labels identifying the machine were illegible. In addition, the floor scraper's power cord was melted and charred to the bare conductors. The extension cord was found to be separated from the

power cord in which the covering and insulation had been melted and charred too, leaving the bare copper exposed. The CSHO attempted to trace the wire back to a receptacle, but the extension cord's bare copper was buried underneath ceiling tile that had fallen and a slurry of muck from the firefighting operations.

Citation(s) as Originally Issued

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

Citation 1 Item 1

Type of Violation: Serious

\$600

29 CFR 1910.1200(h)(1): Employees were not provided effective information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new hazard that the employees had not been previously trained about was introduced into their work area [as adopted by reference in 29CFR 1926.59]:

In that information and training had not been provided to the employees regarding the chemicals they were exposed to such as but not limited to: CHEMSAFE 100

Citation 1 Item 2

Type of Violation: Serious

\$4000

29 CFR 1926.407(b)(2)(i): Equipment was not approved, not only for the class of location but also for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present:

In that the equipment was not approved for the class of location (Class I, Division I) but also for the ignitable properties of the CHEMSAFE 100 flammable vapors in the following instances:

- a. an extension cord with a floor scraper plugged into it was used to remove the flammable chemical CHEMSAFE 100 (145F-150F flashpoint), from the floor of the second story hallway floor.
- b. the electrical floor scraper which had a wire wheel used to scrape the mastic glue from the concrete floor in the presence of the flammable chemical CHEMSAFE 100 (145F-150F flashpoint) located in the second story hallway.

Citation 2 Item 1a **Type of Violation: Other-than-Serious** **\$100**

29 CFR 1910.134(m)(1): Records of medical evaluations required by 29 CFR 1910.134 were not retained and made available in accordance with 1910.1020 [as adopted by reference in 29CFR 1926.103]:

In that records of medical evaluations for each employee who was required to wear a tight-fitting respirator were not maintained.

Citation 2 Item 1b **Type of Violation: Other-than-Serious** **\$0**

29 CFR 1910.134(m)(2)(ii): Fit test records were not retained for respirator users until the next fit test was administered [as adopted by reference in 29CFR 1926.103]:

In that records of fit tests for each employee who was required to wear a tight-fitting respirator were not maintained.

Citation 2 Item 2 **Type of Violation: Other-than-Serious** **\$0**

TDLWD Rule 0800-01-09-.07(4): The employer did not maintain records of hazardous chemical training required by TDLWD Rule 0800-01-09-.07:

In that records of hazardous chemical training were not maintained for employees that work with chemicals such as CHEMSAFE 100





