

# Chemistry of hazardous materials

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## Chemistry of Hazardous Materials

As the Environmental Health and Safety Officer (EH&S) Officer, I am responsible for addressing hazardous situations at the workplace. This is through leading the HazMat team into analyzing the hazardous situations at the workplace, in the surrounding environment, and also for chemicals which are being transported (Meyer, 2010). Thus, the EH&S officer must adequately inform all relevant stakeholders, starting with the HazMat team members, about the accident situation and how to address the hazardous situation.

The information that is required is on the nature and characteristics of the chemicals that is found in the four containers. The characteristics of the hazardous substance in the four containers are determined through NFPA system. The system gives the procedure of identifying the relative levels of the three hazards; chemical reactivity, health and flammability (Meyer, 2010).

The HazMat team experiences several hazardous situations. The puncture tank may contain flammable fumes or chemicals thus it is hazardous because it may result into combustion. The corrosive materials can also negatively affect members of the HazMat team the fumes can cause skin irritation, and respiratory tract infection and inflammation. Strong oxidizing substances have the ability of corroding and thus if not handled properly can burn the skin tissues. Strong acids and bases also show corrosive characteristics and may burn the skin. All the three substances engage in chemical reactions that can produce dangerous substances, like hazardous fumes that cause respiratory tract irritation (Meyer, 2010).

A lot of restraint should be exercised at the accident scene. Only members of <https://assignbuster.com/chemistry-of-hazardous-materials/>

the HazMat team should be allowed to access the site with the punctured tank and the three other tanks containing hazardous materials (Meyer, 2010). The members of the team must wear full protective gear. The gas masks are aimed at preventing the inhalation of dangerous fumes or hazardous chemicals. The reflector jackets prevent skin contact with the hazardous materials.

The other individuals who wish or want to access the accident scene must be told to wear adequate personal protective equipments. The protective equipments include; eye glasses, gas masks, reflector or dust coats, gloves and safety boots. The eye glass minimizes eye irritation, through minimizing the contact between the eye and hazardous fumes. The reflector clothing reduces corrosion by hindering contact between the skin and the hazardous substances.

The 180 employees at the plant should be evacuated. Only members of the HazMat team should be allowed inside the plant building. The other staffs should be transferred to a safe place that is free from the hazardous fumes. The chemical fumes usually diffuse, and hence can fill rooms within the plant. The employees can only be allowed into the plant after the approval of the safety team (Meyer, 2010). The safety team must ensure the effective disposal of the punched container, and containment of any dangerous substances that spilled.

The HazMat team is effectively trained on identifying hazardous situations and then adopting appropriate strategies for disposing or containing the hazardous materials (Meyer, 2010). Restraint is very important, so that the other employees are not exposed to the dangerous and hazardous materials that are released.

## References

Eugine, Meyer (2010). Chemistry of Hazardous Materials. NY: Prentice Hall.

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