

Chemistry of hazardous materials case study



Case Study on Hazardous Materials The paper illustrates the measures that can be taken by the health and safety professional team, to control and address an accident scene that has dangerous or hazardous substances. The case illustrates an accident scene that has an overturned tanker that carries hazardous substances. The paper addresses the sequence, action plan, and finally communication regarding the solution to the hazardous problem illustrated in the accident scene.

The tanker has the dangerous-when-wet sign, class 8 label, and also the UN1836 illustration on the orange panel. The three main illustrations explain that the tanker is transporting hazardous substance that can negatively affect the health and safety of the safety workers and the members of the public. Hazardous material is considered substances, which potentially damage the well being and health of individuals and also the environment. The hazardous substance in the case is in liquid form; this is illustrated through the dripping liquid, from the tanker valve, that is red to yellow in color.

Liquid hazardous materials have identifiable characteristics. They are flammable; hence, they ignite easily and burn rapidly if exposed to ignition source. The materials can also be spontaneously ignitable. This implies heat concentration due to oxidation and microbial activities can ignite the material. Corrosive liquid materials damage skin tissues during contact. Toxic characteristics are applicable to substances that cause negative health effects and even death of the individuals exposed to it. DOT provides guidelines for transporting the hazardous materials. The liquid being transported in the case is Thionyl Chloride. The color of this liquid is red to yellow. The NFPA diamond symbol for the liquid is 4, 0, 2 and W that is <https://assignbuster.com/chemistry-of-hazardous-materials-case-study/>

slashed. The symbol implies that; the substance reacts violently with water, and hence safety caution should be observed by the health and safety team. The action plan for handling the accident situation entails adequate health and safety planning by the professional team. The team should start by ensuring public safety by protecting the accident scene. Members of the public should not be within close proximity to the accident scene. This measure prevents corrosion and irritation effects that people may experience. The safety personnel should wear protective equipments when accessing the accident scene. The safety materials include; special clothing and gas masks. The gas masks prevent the inhalation of harmful fumes that may irritate the respiratory tract. The safety clothing hinders the safety personnel from contacting the dangerous liquid.

Adequate communication is necessary to ensure the health and safety of people and the environment. Members of the public should be effectively informed to maintain a safe distance from the hazardous accident scene. This is to ensure that their health and safety is not negatively affected by the hazardous substance. The company transporting the hazardous chemical should also be contacted. The company will thus send its safety team to safeguard the scene and organize alternative transport. The safety team should also inform the local environmental safety and health authority. Their main responsibility is to ensure that the discharged hazardous material is completely removed by the transporting company; this is to minimize negative effects on the environment and people.

References

<https://www.sendspace.com/file/65vl12>

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<https://www.sendspace.com/file/9jomrv> is the link to Chap 1.

<https://www.sendspace.com/file/u73fgb>