Your Name

Instructor Name

Course Number

Date

Cook Composites and Polymers CO

Cook Composites and Polymers CO (CCP) manufactures gel coats on demands of the customers. During the gel manufacture process, styrene is employed to rinse mixing vessel between the production batches. The company faced several challenges to deal with styrene after it’s usage.

# **Importance of use of rinse styrene for CCP**

After completion of one batch and before the start of new batch, the vessels and mixers are washed using styrene. The cleaning of vessels and mixers by using styrene is important to produce high quality products. Even the smaller amounts of gel from last batch have a possibility to contaminate the next batch and the contaminated batches fail pass the quality test. Styrene is a colorless liquid which is regarded as an ideal rinse material because cleans the vessels efficiently without leaving any residues, is also a major element in gel coat and gets evaporated quickly.

# **Challenge that CCP face for addressing the styrene waste stream**

CCP faced several challenges for addressing waste stream. The main challenges are mentioned below:

* Expensive: The chemical itself is very costly for CCP. But, as no other substance can replace it for its unique properties, CCP is left with no other choice.
* Hazardous: Styrene is hazardous as its vapors irritate the eyes, nose, and throat. Long-term exposure to the styrene can lead to exhaustion, headaches, dizziness. Hence, requires specific procedures for handling and management during storage or disposal.
* Storage: Because the chemical is hazardous, it cannot be stored in large quantities and demands to be exposed quickly.
* Disposal: The disposal off styrene requires standard procedures complying with the environmental regulations. The disposal requires an additional $0.2 per pound and $4620 of a batch of ten drums which is expected to rise about 5% per year.
* Recycling: The recycling usually cannot be carried out as requires it to be transported to specific plants which requires more money.

Hence, CCP faces several challenges dealing with styrene. Still, the company cannot consider replacing it with any other alternative because that would lead to poor quality gels and a company like CCP which is known for their quality cannot afford that.