

Polyethylbenzene Co-product (PEB) Product Stewardship Summary

CAS number

68987-42-8

Chemical formula

Not applicable (mixture of several components of varying quantity)

What is PEB?

The Polyethylbenzene bottoms stream is a co-product of ethyl benzene manufacture. Ethyl benzene is produced through alkylation of benzene with ethylene. The product is a mixture of the following aromatic compounds: diethylbenzene, triethylbenzene, 1,1-diphenylethane, 1,2-diphenylethane and diphenylmethane.

How is PEB used?

PEB is a liquid used as a solvent, which is used for carbonless copy paper after addition of colourless dyes, and is also used as fuel, which is burnt on site

Health, Safety and Environmental considerations

PEB is irritating to the skin and eyes. Correct personal protective equipment should be worn when working with PEB. If vapours are inhaled, irritation of the respiratory tract may be experienced. At high concentrations inhalation of vapours may cause drowsiness and dizziness. Continued inhalation at high concentration may result in unconsciousness and/or death. Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis.

Data for the individual components suggest a very low oral and dermal toxicity. Likewise, PEB is not expected to be mutagenic or carcinogenic or impair fertility.

PEB has a flash point above 100°C and therefore ignition is not regarded as a significant safety hazard at normal handling temperatures. Electrostatic charges may be generated during handling.

The product is virtually insoluble and if spilled in water, could sink or float and may form an emulsion or suspension. The components of this product show a low tendency to biodegrade and could remain in the environment for some time, often remaining in the soil and sediment. Contamination of groundwater is

possible from the lighter components. Heavier components are less mobile, hence their contribution to groundwater contamination is expected to be low.

Storing and transporting PEB

Shell companies transport PEB by railcar.

Risk Characterization Summary

Risks associated with exposure to this product have been evaluated for the following “chain-of-commerce” activities: manufacture, storage, product transfer, transportation, and customers/markets. Due to health, safety and environmental considerations, it is only manufactured, stored and transported to customers in closed systems. Likewise, customers are limited to those who only use the product in closed systems as an intermediate for the manufacture of other chemicals. Proper equipment design and handling procedures maintain low risk from exposure to PEB where the product is handled as a chemical intermediate.

This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the chemical’s applicable Material Safety Data Sheet, which should be consulted before use of the chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.