



Product Stewardship Summary

Phthalic Anhydride

Product Description

Molten phthalic anhydride is supplied in the form of a clear liquid. The solid is supplied in the form of a white crystal or flake

Uses and Applications:

Phthalic anhydride is a versatile intermediate in organic chemistry. It is used to manufacture plasticizers, polyester and alkyd resins. It is also used to manufacture dye intermediates, food preservatives, pharmaceuticals, insect repellants and perfume fixatives.

Synonyms:

Phthalic Anhydride flake

Phthalic Anhydride solid

Health Information

Acute (Short-Term) Health Effects

Exposure to phthalic anhydride can occur to its powdered, molten, or vaporous forms. Exposure to molten phthalic anhydride poses dangers due to high temperatures.

Contact with the eyes may cause serious irritation and possibly eye damage. Contact with the skin may also cause an allergic skin reaction, skin irritation and possibly burns. Phthalic anhydride in the form of vapor, fumes, or dust is a primary irritant to mucous membranes and the upper respiratory tract. Initial exposure may produce coughing, sneezing and burning sensations in the nose and throat, and increased mucous secretion. Exposure may cause allergy or asthma symptoms or breathing difficulties if inhaled.

Phthalic anhydride is metabolized in humans to phthalic acid. In contact with water it is rapidly hydrolyzed to phthalic acid. Phthalic acid has corrosive effects. Due to the ionic character of this compound, only a marginal penetration through the skin barrier is expected

Chronic Health Effects

Phthalic anhydride is not considered to be a carcinogen by IARC, NTP, OSHA or ACGIH.

No mutagenic effects have been observed in association with phthalic anhydride.

Phthalic anhydride is not expected to cause reproductive or developmental effects.

No substance-specific organ toxicity or developmental/teratogenic effects have been observed with phthalic anhydride or products of a similar structure or composition.

Phthalic anhydride may be a skin sensitizer.

Environmental Information

Phthalic anhydride is readily biodegradable. The hydrolysis product phthalic acid is also readily biodegradable. Both products readily degrade in the water treatment process.

If not biodegraded, phthalic anhydride will inhibit growth of some species of aquatic algae at a concentration of 560 mg/L. While some acute environmental toxicity is expected due to the acidity of phthalic acid, long-term toxicity is expected to be minimal. Overall, the acidity of phthalic acid poses the greatest hazard for exposure of plants and animals to phthalic anhydride.

It is also expected that there is no significant potential for bioaccumulation for either phthalic anhydride or phthalic acid.

Exposure

Phthalic anhydride is an industrial product and is not directly sold to consumers for direct consumer use. Exposure to phthalic anhydride is primarily limited to occupations settings. Worker exposure is limited by the use of enclosed processing systems, industrial hygiene controls and personal protective equipment. Each industrial facility should have a thorough training program for employees and appropriate work processes, as well as safety equipment in place to limit exposure. Workers should follow the recommended safety measures in the relevant Safety Data Sheet (SDS).

Contact Information

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