PHTHALIC ANHYDRIDE

STEPAN PHTHALIC ANHYDRIDE is a high purity dibasic anhydride produced by catalytic oxidation.

Chemical Structure

Phthalic Anhydride appears on the following chemical inventories: United States (TSCA) 85-44-9, Australia (AICS) 85-44-9, Canada (DSL) 85-44-9, China (IECSC) 85-44-9, European Union (EINECS) 201-607-5, Japan (ENCS) (3) -1344, (ISHL) (3-) 1344, Korea (KECI) 85-44-9, New Zealand (NZIoC) 85-44-9, and Philippines (PICCS) 85-44-9.

Applications

Stepan Phthalic Anhydride is used to produce polyester polyols for a variety of Polyurethane markets and to make polyester resins for reinforced plastics. This versatile chemical is also used in the manufacture of alkyd resins for paints and protective coatings. Phthalic Anhydride is reacted with alcohols to produce phthalate ester plasticizers for synthetic resins and plastics. Other uses for Phthalic Anhydride include the making of dye intermediates, pigments, engineering plastics, benzoic acid and phenolphthalein.

Typical Empirical Formula ................................................................. \( \text{C}_8\text{H}_4\text{O}_3 \)

Physical Molecular Weight .......................................................... 148.11

Properties

Specific Gravity – Flake (at 4°C) ......................................................... 1.527
Specific Gravity – Molten (at 150°C) ............................................... 1.198
Bulk Density – Flake lb/ft\(^3\) .............................................................. 37.5
Pounds per Gallon – Molten (at 150 °C) ........................................... 9.93
Color – Flake ................................................................................. White
Color – Molten (APHA, max.) ............................................................ 30
Boiling Point, °C (°F) ......................................................................... 284.5 (544.1)
Flash Point, °C (°F) ........................................................................... 150 (302)
Solidification Point, °C (°F) .............................................................. 131 (267.8)

Toxicity

Experiments with rats show Phthalic Anhydride to be moderately toxic orally, while inhalation experiments in animals show it to cause respiratory irritation at concentrations of 30 mg/m\(^3\) in air. Phthalic Anhydride is not considered a carcinogen in mice or rats per chronic oral testing at 105 weeks.

Phthalic Anhydride is not corrosive to skin per DOT Skin Corrosivity testing at 48 hours (intact, n=6). However, its dust and vapors are irritating to moist skin and eyes.
Storage & Handling

Flake: Store bags in a cool, dry place away from heat, sparks, and open flame. Avoid contact with moisture. Never store directly on ground, do not slide across sharp objects.

Molten: Call our Technical Service Department at 1-800-745-7837.

Storage

Flake: Packaged in 55-pound net paper bags. The standard pallet contains 40 bags for a net weight of 2,200 pounds. Pallets can be utilized with plastic shrink wrap or plastic netting at the customer’s request. Also, available in 2,000 pound (net) Supersacks, one per pallet.

Molten: Supplied in approximately 40,000 pound (net) tank trucks and 185,000 pound (net) tank Cars.

Disposal Information

Do not handle spilled material. Collect by shoveling into container for removal to an E.P.A. designated disposal facility, RCRA#U-190. The Reportable Quantity for Phthalic Anhydride is 5,000 lbs. Empty containers and unused contents must be disposed of in accordance with local, state, and federal regulations.

Additional Safety Information

A Material Safety Data Sheet is available upon request.

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