



Pollution Prevention

Fact Sheet: Tributyltin

What is Tributyltin (TBT)?

TBT is a highly toxic chemical that has been used for many years as a pesticide additive in industrial and marine paints to prevent fungal growth and to discourage barnacles, algae and other marine organisms from growing on boat hulls. TBT is also used as a biocide additive in cooling water systems such as cooling towers and refrigeration water systems; as a preservative for wood, textiles, paper, leather, and glass; as a rodent repellent, insecticide, and biocide; as a water-repellent coating, antioxidant, curing agent, and corrosion inhibitor; in sheetrock joint compound; and in flame-resistant polyester. TBT derivatives are used as disinfectants. Household products that may contain TBT compounds include wood preservatives, paint and stain additives, toilet cleansers and carpet shampoo. Trade names include Alumacoat, Bioclean, FloTin, Fungitrol, TinSan, Ultrafresh and Vikol.

Why Should We Be Concerned About TBT?

TBT is extremely hazardous to ecosystems. Even in very small concentrations, TBT compounds are highly toxic to many species of aquatic organisms, including mussels, clams, oysters, and lobsters. TBT is particularly harmful because it accumulates in these organisms and in the fish and mammals that consume them. TBT concentrations in some aquatic organisms, such as oysters, can be up to 250,000 times higher than surrounding seawater. TBT can cause irreversible reproductive damage and infertility in some aquatic creatures, leading to local extinction of some species. Human consumption of fish contaminated with TBT can suppress the immune system. Contact with TBT-containing products can cause severe irritation to the skin and eyes. Studies have shown that just one gallon of a 2% TBT solution poured down a drain can make 2.4 billion gallons of Bay water lethal to aquatic life. Because wastewater treatment plants are designed to remove biological contaminants only, toxic chemicals like TBT remain in the water that is released into the Bay. Once in the environment, TBT can pose a threat for more than 10 years because it decomposes very slowly.

What Can You Do to Help Keep TBT Out of the Bay?

Read Labels: When purchasing paint, stain or additives, wood preservatives, toilet cleansers, disinfectants or fungicides, read the product labels and consider using alternatives that do not contain TBT (sometimes listed as “bis (tributyltin) oxide” on labels). Be especially aware when purchasing products that are labeled as preservatives, fungicidal or microbiocidal. Also check the labels on products you already have on hand.

Don't Pump Down Drains: Never dump any chemicals down any internal or external drains. It is illegal to dispose of TBT products down a sewer or storm drain, and significant fines can be levied for doing so. Never rinse paint brushes and other painting supplies that have been used for applying TBT-containing paint or stain. Use disposable paint brushes instead, and take all used brushes to the Household Hazardous Waste Collection Facility (HHWCF).

Dispose of TBT Properly: Take old or leftover products containing TBT (including used paint brushes) to the HHWCF. Carefully label paint containers that contain TBT additives so you can ensure they are handled and disposed of safely, by yourself as well as by the HHWCF staff.

Know The Law: Boat owners and operators are prohibited from applying TBT products on vessels less than 82 feet long or any other surface that may come in contact with the aquatic environment. TBT products have also been banned in the Bay Area for use in cooling water systems.

How Can You Find Out More?

For information about TBT Contact the Napa Sanitation District's Source Control Office at 707-258-6000 extension 502 or visit the California Department of Pesticide Registration at: www.cdpr.ca.gov.

Where Can You Dispose of TBT?

Residents of Napa and Solano service area can use our Household Hazardous Waste Collection Facility located in American Canyon, CA at 889 A Devlin Road or call 1-800-984-9661.

Summary of Bay-Area Tributyltin Ban

I Antifouling paints or coatings containing tributyltin (bis (tributyltin) oxide) can only be applied to aluminum vessel hulls; vessel hulls 82 feet or more in length; and outboard motors and lower drive units.

TBT is a restricted-use pesticide in California. The use of TBT-containing paint on vessels is highly regulated. Anyone wanting to use TBT-containing paints must first check with the Agricultural Commissioner's office (925-646-5250) for restrictions and requirements. Alternative antifouling paints are available.

- Source: Sections 14005, 14006 and 14151, California Food and Agricultural Code.

II Poisons containing bis (tributyltin) oxide which are sold as "additives" to be mixed with paints or coatings shall NOT be applied, either alone or when mixed with paint, to any surface that comes into contact with the aquatic or marine environment including, but not limited to, vessels, piers and fishing equipment.

- Source: Sections 12781, 12824, 14005, 14006 and 14102, California Food and Agricultural Code.

III A. No person shall use a pesticide product containing tributyltin (bis [tributyltin] oxide) for the control of fouling microorganisms (such as bacteria, algae, or fungi) in cooling water systems. The product ban is effective in the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

B. No person in the counties listed in subsection (A) shall sell to users a pesticide containing tributyltin for the control of fouling microorganisms (such as bacteria, algae, or fungi) in cooling water systems.

- Source: Sections 12976, 14005, 14006 and 14102, California Food and Agricultural Code.