

TECHNICAL DATA

T B T A (Tributyltin Adipate)



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ANTI-FOULANT

A FOULANT FOR MANUFACTURING USE ONLY IN FORMULATING ANTI-FOULING PAINTS

GENERAL DESCRIPTION

TBTA is an organotin compound offered for use in shipbottom paints to control the attachment for MARINE fouling organisms. TBTA has been used successfully

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TBTA is an organotin compound offered for use in shipbottom paints to control the attachment for MARINE fouling organisms. TBTA has been used successfully in a variety of coating formulations, and in combination with other additives to provide broad spectrum control of MARINE fouling organisms, thereby contributing to the economy of both maintenance and vessel operation.

ADVANTAGES OF TBTA ARE:

- Excellent compatibility with reactive and non-reactive pigments
- Excellent compatibility with most solvents
- Excellent compatibility with most resins
- Excellent compatibility with most additives
- Excellent compatibility with most pigments
- Excellent compatibility with most fillers
- Excellent compatibility with most extenders
- Excellent compatibility with most solvents

TYPICAL PROPERTIES OF TBTA

Physical form	White powder
Purity	97 % min.
Tin content	32.2 %
Acid number	162
Melting point	102-104°C
Wt/gal. (25°C)	10.4 lbs.
Bulk density	35.6 lbs/ft. 3
Solubility	Relative to 100 parts in water and 100 parts in solvents

FORMULATION CONSIDERATION

TBTA is a fine powder with very low solubility in water and standard paint solvents; its properties permit it to be incorporated into paint systems at high levels, 10% to 20% per gallon, to achieve good performance. Paint formulations based on TBTA must be prepared with care, giving particular attention to dispersion, mixing, and grinding. A hermetic grinding of 100 mesh is required for a satisfactory product. The grinding must be done in a dry state to prevent entrainment of the water, which would create a relatively insoluble film.

For this reason, Kevlar and other fillers have been used successfully in paint formulations. The water sensitive fillers should be avoided, as they will create a relatively insoluble film.

FORMULATION ASSISTANCE

Additional information and guidance in the use of TBTA antifoulant can be obtained from KEL-GL0 CORPORATION in Miami, Florida.

ACTIVE INGREDIENTS

Coatings containing TBTA antifoulant must be applied to a clean, properly prepared, primed surface. For metal surfaces, use primers and appropriate anti-corrosive coatings, based on the top coat, should be used.

Film thickness is a critical factor in obtaining optimum performance. This is based on data developed with panels exposed and on boats used in Biscayne Bay. These tests demonstrated that maintaining a film thickness of a minimum of 5 mils or greater can add significantly to the performance life of antifouling paints.

WATER EXPOSURE RESULTS

Coatings containing TBTA compounds and exposed in Biscayne Bay, Miami, Florida, provide long term effectiveness. Tests were conducted on submerged panels and on boats which were intermittently coated with antifouling paints with TBTA as the only ACTIVE INGREDIENT, and in combination with various percentages of Cuprous Oxide. Fouling ratings were based on the number of barnacles, percent Algae and other fouling organisms accumulating on the panels and recorded monthly.

WATER EXPOSURE RESULTS

It is generally recommended that a coverage ratio of between 3:1 and 1:1 be used to achieve antifouling coatings with a maximum effective life.

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EPA LABELING

Labels to ship TBTA or its formulations for use in antifouling paints must be registered with the Environmental Protection Agency. TBTA has been registered as an economic poison with the EPA by KEL-GL0.

Registration No. 35924-23

Paint formulations have also been registered with the EPA using TBTA as the exclusive antifoulant, and in combination with Cuprous Oxide.

It is important that each manufacturer register his own formulation with the EPA. KEL-GL0 will assist formulators using TBTA in their antifouling paints to obtain such registrations.

TOXICOLOGICAL PROPERTIES

T.B.T.A. is extremely hazardous to the eyes. Upon contact it may cause damage if not treated promptly. It is advisable to avoid contact with the eyes. This material is toxic by ingestion and care must be taken to avoid swallowing. While T.B.T.A. is not particularly irritating to the skin, it is advisable to prevent skin contamination because of the possibility of transfer from sensitive areas of the body. Inhalation of the dust should be avoided.

Paints containing T.B.T.A. are hazardous to the eyes and may cause damage if in contact with the eyes. It is advisable to avoid eye contact, especially from splashing while applying. Goggles with side protection or a suitable equivalent are recommended when painting. Care should be taken to prevent swallowing.

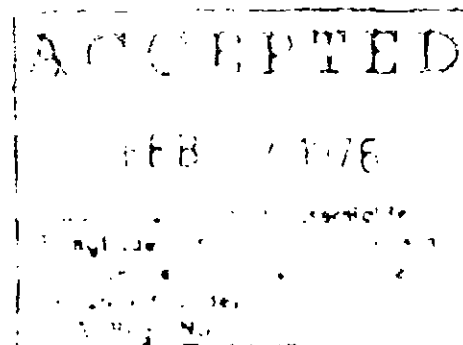
These paints may cause skin irritation and care should be taken to avoid skin contact.

SUGGESTED FIRST AID

Contamination of the eyes should be treated immediately by flushing continuously with water for fifteen minutes. Preferably a gentle, continuously flowing stream of water should be directed into the eye (eye-shelter if necessary). A physician should be contacted in the case of accidental swallowing. If swallowed, seek medical help immediately and show this label. In the case of contact with T.B.T.A. on the skin, the area should be washed thoroughly with soap and water followed by a thorough rinse with water. Contaminated clothing should be removed and washed with soap and water before reuse. Precautions should be taken to prevent the spread of T.B.T.A. or paint containing it to the eyes.

Tri-butyltin Adipate

FOR MANUFACTURING USE ONLY IN FORMULATING ANTI-FOULING PAINTS



Active Ingredient: BIS(TRIBUTYLtin) ADIPATE	97% Min.
Inert Ingredients:	3% Max.
Total	100%

DANGER!

KEEP OUT OF REACH OF CHILDREN. ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE.

In case of contact,