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"Dutch Boy"
TRIBASE

A HIGHLY BASIC LEAD STABILIZER
FOR VINYL PLASTICS



DUTCH-BOY-CHEMICALS

A Product Development of
NATIONAL LEAD COMPANY

Form TB-57

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NLI 11617

"Dutch Boy" TRIBASE

TRIBASE, hydrous tribasic lead sulfate, is the most basic white lead sulfate produced. The high content of available lead is valuable in high heat stabilization of vinyl chloride plastics.

TRIBASE is also a white, highly reactive paint pigment.

TRIBASE has a total lead content equivalent to 89% PbO, and its available basic lead oxide content is 67.3%. In other words, TRIBASE is really the "white lithium" sought after by several industries.

Table of Properties

Composition	Tribasic Lead Sulfate (Hydrous)
Formula	$3PbO \cdot PbSO_4 \cdot 4H_2O$
Form and Color	Extremely fine white powder
Molecular Weight	998
Specific Gravity	7.3
Refractive Index	2.2
Weight per Solid Content in Pounds	90.1
Lead Content % Pb	89.6
Lead Content % PbO	80

Uses

Vinyl Stabilizer—TRIBASE is an excellent heat stabilizer for vinyl chloride plastics. Its high basic lead content provides a heat stability reserve which is superior to most other vinyl stabilizers. It can be used with all vinyl plasticizers except those which do not perform well with the basic lead stabilizers, such as the phosphates, the ethers and aliphatic unsaturated esters.

TRIBASE is a recommended heat stabilizer for all types of opaque vinyls, including extrusions, calendered and coated products, and dispersion resin systems. It is particularly useful combined with "DUTCH BOY" DS-287 for the

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higher molecular weight rigid vinyl polymers, in low filler content phonograph record stocks, and with "DUTCH BOY" NORMASAL in heavy duty asbestos flooring.

Vinyl Electrical Insulation—A special feature of TRIBASE is its excellent electrical properties in vinyls. Slab tests on a standard electrical formulation confirm its combination of high heat stability and good volume resistivity. Insulated wire tests, including water immersion studies, show that TRIBASE performs well in standard electrical stocks such as the T and TW types. It is generally recommended for the 60°C., 80°C. and 90°C. Underwriters' classifications of wire insulation.

Paint Pigments—TRIBASE combines the white color stability of lead sulfate under light and heat with the highly reactive characteristics of litharge. An ideal use is to counteract absorption of driers by pigments. Being white and light stable, TRIBASE does not cause discoloration, which is sometimes a problem with litharge in white and pastel shade enamels.

Recommendations

The concentration of TRIBASE in a vinyl formulation may range from 2% to 10%, based on the weight of the resin, depending upon the type of plastic product.

In an electrical stock, from 6% to 8% TRIBASE (resin basis) is generally used.

About 5% is the concentration for a non-electrical extrusion.

The usual level in record stocks is 2% TRIBASE and 1% "DUTCH BOY" DS-207.

In heavy duty asbestos flooring use 2% TRIBASE with 5% to 6% "DUTCH BOY" NORMASAL and 1% "DUTCH BOY" LEADSTAR (all resin basis).

For rigid vinyls, between 2% and 5% TRIBASE (resin basis) is suggested, together with 2% "DUTCH BOY" DS-207.

4% to 5% TRIBASE (resin basis) is the recommended amount for most opaque calendared stocks and dispersion resin systems.

In paints, where TRIBASE is used as a replacement for litharge, an equal weight substitution is suggested. In enamels, for example, the general range is from 3 to 7 pounds per hundred gallons of paint.

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