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RUBBER CHEMICALS
-ACCELERATORS-
THIURAMS

ACCELERATOR TiBTD
-N, N, N', N'-tetraisobutylthiuram disulfide (TiBTD)-

DESCRIPTION:

Accelerator TiBTD is a non-staining ultra accelerator for EPDM, SBR, nitrile, and natural rubber that produces very low levels of nitrosoamines (100 times less than common thiurams). Accelerator TiBTD is a fast curing accelerator that creates shorter sulfur-sulfur crosslinks in rubber vulcanizates. TiBTD increases cure rate but with greater scorch safety than comparable thiurams. This allows for safer working environments while at the same time improving processing conditions of mechanical rubber goods. Cost of TiBTD is much less than other low-nitrosoamine thiurams such as TBzTD.

Possible accelerators that TiBTD may replace include TMTD, TETD, DPTT, TMTM, TBzTD and some dithiocarbamates. The good scorch protection combined with good cure time of the TiBTD allows for higher processing temperatures and mold temperatures which may translate to shorter cycle times or allow successful molding of hard-to-process stocks. TiBTD is also remarkable in that it results in less reversion of natural rubber compounds than comparable accelerators; again this may allow shorter, higher temperature cures. In combination with Cure-Rite® 18, natural rubber compounds with good scorch safety can be made with flat-plateau cure curves at 350°F.

TYPICAL PROPERTIES:

Appearance.....	off-white powder*
Heat Loss.....	<1.0%
Melting Point.....	70-73°C
Specific Gravity.....	1.14
Solubility.....	negligible in water

APPLICATIONS:

Being a higher molecular weight accelerator, more TiBTD by weight should be used if replacing other thiurams (1.7 x TMTD phr; 2.0 x TMTM; 1.4 x TETD). The exception is the replacement of TBzTD would require only 0.75 as much TiBTD.

A formula with a sulfenamide (TBBS, CBTS, OBTS) and sulfur cure can be accelerated to cure faster with minimal loss in scorch delay by replacing 20% of the sulfenamide with TiBTD.

gpb 9/07

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