

## ADVASTAB® TM-404ER

Low Odor Methyltin Heat Stabilizer

### DESCRIPTION

**ADVASTAB® TM-404ER** thermal stabilizer is a new low odor, high efficiency liquid methyltin mercaptide designed to stabilize rigid polyvinyl chloride polymers and copolymers used for food-packaging applications. **ADVASTAB® TM-404ER** stabilizer is suitable for food-packaging applications as defined by US FDA Title 21CFR178.2010. **ADVASTAB® TM-404ER** stabilizer is also approved for food use by Japanese and European regulatory agencies. **ADVASTAB® TM-404ER** stabilizer offers enhanced early and mid-range color hold compared to previous methyltin mercaptides used for food-grade applications. Proprietary manufacturing technology provides improved processing and regrind stability.

### GENERAL CHARACTERISTICS

Properties	Typical Values
Form	Liquid
Gardner Color	1 or <1
Viscosity, cs (@25°C)	50
Specific Gravity (@25°C)	1.18
Weight, lb/gal (@25°C)	9.8
Trimethyltin Compounds	0.3 (max.)
% Tin	19.2 (min.)
% Mercaptan Sulfur	12.0
Color (% Transmission @ 440 nm)	80
Appearance	Clear Liquid

### APPLICATIONS & FEATURES

The stabilizer of choice for clear rigid Vinyl blow molding formulations designed for food-contact where reduced stabilizer odor during processing and in the finished product is required. Improved color hold allows for the more efficient use of regrind. Sanctioned for food-contact applications in US FDA Title 21CFR178.2010 at up to 2% by weight of the total compound. Suitable for calendered and extruded Vinyl sheet used for food-contact applications, especially where low stabilizer odor is required.

### PACKAGING

Available in Totes or Intermediate Bulk Container (IBC).

#### In US

Customer Service  
1.855.638.2549  
Fax 1.855.289.2885

#### In Europe

Customer Service  
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### STARTING FORMULATION RECOMENDATIONS

Food Contact Grade PVC Bottle	Use Level (phr)
PVC Resin (K-57)	100.0
<b>ADVASTAB® TM-404ER</b>	1.5 – 2.0
Internal Lubricant	1.5 – 2.0
External Lubricant	0.1 – 0.2
Acrylic Process Aid	1.5 – 2.0
Acrylic Process Aid (Metal Release)	0.5 – 5.0
MBS Impact Modifier	12.0 – 15.0
Toner	As Required

Food Contact Grade Sheet	Use Level (phr)
PVC Resin (K-60)	100.0
<b>ADVASTAB® TM-404ER</b>	1.2 – 1.5
Internal Lubricant	1.2 – 1.5
External Lubricant	0.1 – 0.5
EVA Co-Polymer	0.0 – 3.0
Acrylic Process Aid	1.5 – 2.0
Acrylic Process Aid (Metal Release)	0.7 – 1.0
MBS Impact Modifier	6.0 – 12.0
Toner	As Required

### SAFETY & HANDLING

**ADVASTAB® TM-404ER** stabilizer is a liquid tin mercaptide thermal stabilizer and should be handled with normal precautions used in good industrial practices for organic liquids. Use adequate ventilation. Wear rubber gloves. Wear eye protection. In case of contact with the skin, wash thoroughly with soap and water. In case of contact with eyes, flush with water and get medical attention.

We recommend that the material is stored in a cool, dry environment in a tightly closed container and used within 6 months after delivery. Stainless steel is recommended for piping, valves and pumps used to handle **ADVASTAB® TM-404ER** stabilizer. Do not use iron.



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### ENVIRONMENTAL AND SAFETY INFORMATION

BEFORE HANDLING THIS MATERIAL, READ AND UNDERSTAND THE MSDS (MATERIAL SAFETY DATA SHEET) FOR ADDITIONAL INFORMATION ON PERSONAL PROTECTIVE EQUIPMENT AND FOR SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION. For Environmental, Safety & Toxicology information, contact our Customer Service Department at 1-855-638-2549 (1-855-METALIX) to request a Material Safety Data Sheet.

### MORE TECHNICAL INFORMATION AVAILABLE

Ask your PMC account manager for further information about other high quality PMC plastics additives for use in PVC resins, PVC alloys and other polymer systems. PMC offers its **Center for Vinyl Innovation (CVI)** where our field experienced technical staff maintains a full array of PVC testing capabilities to assist vinyl processors solve a range of formulation and processing problems. Set up a visit to the CVI to learn more about how PMC's technologists can help improve your vinyl processing applications.

### PMC ORGANOMETALLIX THERMOLITE® AND ADVASTAB® HEAT STABILIZERS

PMC Organometallix offers a full range of Methyltin, Butyltin and Octyltin heat stabilizers. Our **Thermolite®** and **ADVASTAB®** heat stabilizers are designed for use in the production of rigid, semi-rigid and cellular PVC products. Organometallix has developed PVC heat stabilizers specifically for extruded siding, profiles and pipe, injection molding, blow molded bottles and calendered or extruded sheet. Organometallix offers a full line of stabilizers that meet FDA requirements for food contact grade PVC packaging as well as a full line of NSF authorized stabilizers for PVC potable water pipe & fittings.

### PMC BIOGENIX ADVAPAK®, ADVALUBE®, ADVAWAX® KEMAMIDE® AND KEMESTER® LUBRICANTS

PMC Biogenix offers a wide range of metallic stearates, specialty lubricants and other additives designed for all grades of polymer processing, including PVC pipe and profile extrusions, compounding, film and sheet and injection-molding applications. Biogenix brands are widely recognized. **ADVAWAX®** synthetic waxes are used in bottles, films and cellular PVC profile extrusions. **ADVALUBE®** specialty ester-based internal and external lubricants are designed for rigid PVC profile extrusion, calendered film and sheet, and blow molding applications. **ADVAPAK®** is family of multi-functional one-pack systems (OPS) combining heat stabilizer and lubricant technology designed for efficient extrusion of all types of PVC pipe and moldings. **Kemamide®** synthetic waxes find uses as slip agents and anti-block additives that provide excellent bloom control and secondary mold-release in polyolefins and engineering polymers such as nylon, PS and ABS. **Kemester®** lubricants are a range of glycerol esters and specialty esters that function as boundary lubricants, mold-release agents, emulsifiers, anti-stats, anti-fogs, and emollients in automotive plastics, etc.

### PMC CRYSTAL BAION® AND CRYSTALWAX® LUBRICANTS

PMC Crystal manufactures **Baion®** and **CrystalWax®**, a broad range of standard paraffin and polyethylene wax blends along with options of including specialty lubricants produced by PMC Biogenix. Crystal lubricants are also available in custom formulations to meet specific customer requirements. Several **Baion®** products are fully authorized by NSF for use in PVC potable water systems. **Baion®** and **CrystalWax®** products find uses in PVC siding, window profiles, fencing, decking and trim applications to highlight a few.



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