

Thermolite® 190

Methyltin PVC Heat Stabilizer

Description

Thermolite 190 PVC heat stabilizer, a liquid methyltin, was especially formulated for good early color control and long-term stability. It is recommended particularly for clear packaging formulations such as food-grade blow-molded bottles. This non-lubricating stabilizer allows the formulator the freedom to control the processing properties of the compound. Thermolite 190 heat stabilizer provides excellent clarity and color hold in both blow-molded bottles and film and sheet. Thermolite 190 heat stabilizer is suitable for food packaging applications worldwide.

General Characteristics

Properties	Typical Values
Form	Clear Oily Liquid, Water White
Color (Gardner)	1
Viscosity, cs (@25°C)	73
Specific Gravity (@25°C)	1.18
Refractive Index (@25°C)	1.51
% Tin	19.2

Benefits

- Outstanding early color hold.
- Outstanding long-term dynamic stability.
- Sparkling clarity.
- Versatile – suitable for blow-molded containers, extruded and calendered film and sheet.
- Fully compliant for food packaging applications as defined by the US FDA 21CFR 178.2010.

Applications

Thermolite 190 PVC heat stabilizer is compatible with most additives used in rigid PVC, therefore, it allows the formulator a broad selection of materials in compounds. The following formulation recommendations are starting points for optimization depending on equipment type.

Packaging

Thermolite 190 heat stabilizer is available in drums and totes.

In US

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Starting Formulation Recommendations

Food Grade PVC Bottle	Use Level (phr)
PVC Resin (K-57)	100.0
Thermolite 190	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 – 1.0
MBS Impact Modifier	2.0 – 15.0
Toner	As Required

Food Grade Extruded Sheet	Use Level (phr)
PVC Resin (K-58 to K-60)	100.0
Thermolite 190	1.2 – 1.5
Internal Lubricant	1.2 – 1.5
External Lubricant	0.1 – 0.5
Acrylic Process Aid	1.5 – 2.0
Acrylic Process Aid (Metal Release)	0.7 – 1.0
MBS Impact Modifier	5.0 – 10.0
Toner	As Required

Safety and Handling

Thermolite 190 stabilizer may be handled with the same normal precautions as other methyltin mercaptide stabilizers and organic liquids. In case of contact with skin, thoroughly wash with soap and water. In case of contact with eyes, flush with water and get medical attention immediately. Use with adequate ventilation and avoid excessive or prolonged exposure to the vapors.

Indoor storage is recommended. Iron or non-stainless steel should be avoided for piping, valves, and pumps. Teflon® gaskets are recommended. No part of the stabilizer handling system wetted by liquid should contain copper.



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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 Organometallix account manager for further information about other high quality PMC Organometallix's additives for use in PVC resins, PVC alloys and other polymer systems. PMC Organometallix produces a full line of heat stabilizers. In addition, PMC Organometallix's Technical Service staff is available to assist compounders and processors to solve formulation and processing problems.

Thermolite® and ADVASTAB™ Heat Stabilizers

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

ADVAPAK™, ADVALUBE™ and ADVAWAX™ for Rigid PVC Lubrication

Organometallix offers a wide range of performance lubricants for PVC processing. ADVALUBE™ and ADVAWAX™ include every lubricant class from esters to amides to paraffin waxes. ADVAPAK™ lubricants are custom formulations to meet specific customer requirements. ADVALUBE™, ADVAWAX™ and ADVAPAK™ products find uses in PVC pipe, siding, window profiles, film and sheet, molding, fencing, decking and trim applications.

Biogenix Lubricants

PMC Biogenix's lubricants include Calcium, Zinc, Lithium, and Magnesium stearates that meet FDA requirements for food grade PVC packaging as well as NSF requirements for PVC potable water pipes & fittings. Our PVC lubricants such as Industrene®, Hystrene®, Kemester®, Kemamide® and heat stabilizers together offer a comprehensive PVC package for production of rigid, semi-rigid, foamed, and flexible PVC applications such as extrusion molding, injection molding, blow molding, calendering, siding, profiling, piping etc.

CrystalWax for Rigid PVC Lubrication

Crystal manufactures a broad range of standard blends utilizing paraffin and polyethylene waxes along with the option of blending EBS, GMS and other lubricating esters produced by PMC Biogenix. CrystalWax lubricants are also available in custom formulations to meet specific customer requirements. CrystalWax formulations find uses in PVC siding, window profiles, fencing, decking and trim applications to highlight a few.



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