

Thermolite® 31S

Butyltin PVC Heat Stabilizer

DESCRIPTION

Thermolite® 31S is a butyltin mercaptide PVC heat stabilizer with a long history of use in various PVC applications. **Thermolite® 31S** heat stabilizer imparts good initial color combined with excellent dynamic stability to a variety of demanding PVC applications, such as injection molding and single or twin screw extrusion of weatherable profiles.

GENERAL CHARACTERISTICS

Properties	Typical Values
Form	Clear Oily Liquid, Pale Yellow
Color (Gardner)	1
Viscosity, cs (@25°C)	36
Specific Gravity (@25°C)	1.13
Refractive Index (@25°C)	1.50
% Tin	18.3

BENEFITS

Among the advantages of using **Thermolite® 31S** heat stabilizer in PVC systems are the following:

- Excellent dynamic stability in high-shear applications.
- Good initial color and consistent long-term color hold.
- Balanced lubricity.
- Good cost/performance ratio.
- Proven, long term track record.

APPLICATIONS

Thermolite® 31S heat stabilizer may be used in a wide variety of applications, but its greatest use is in rigid PVC compounds such as pipe, fittings, sheet and profiles.

PACKAGING

Available in Totes or Intermediate Bulk Container (IBC).

SAFETY & HANDLING

Thermolite® 31S stabilizer may be handled with the same normal precautions as other butyltin 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.

We recommend that the material is stored in a cool, dry environment in a tightly closed container and used within 6 months after delivery. 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.

In US

Customer Service
1.855.638.2549
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In Europe

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STARTING FORMULATION RECOMMENDATIONS

Injection Molding (Fittings)	Use Level (phr)
PVC Resin (K-58)	100.0
Thermolite® 31S	1.5 – 2.0
PMC Biogenix Calcium Stearate	1.0 – 1.5
CrystalWax® 2054 (165°F mp)	1.0 – 1.5
Acrylic Process Aid	1.0 – 1.5
Acrylic Process Aid (Metal Release)	0.0 – 0.5
Calcium Carbonate (0.8 µm)	2.0 – 5.0
MBS Impact Modifier	0.0 – 10.0
Titanium Dioxide	3.0 – 5.0

Weatherable Injection Molding (Fittings)	Use Level (phr)
PVC Resin (K-55 to K-58)	100.0
Thermolite® 31S	1.5 – 2.0
PMC Biogenix Calcium Stearate	0.7 – 1.5
CrystalWax® 2054 (165°F mp)	0.7 – 1.5
Acrylic Impact Modifier	2.0 – 3.0
Acrylic Process Aid	0.7 – 2.0
Calcium Carbonate (0.8 µm)	3.0 – 5.0
Titanium Dioxide	9.0 – 10.0

Weatherable Profile	Use Level (phr)
PVC Resin (K-65 or K-67)	100.0
Thermolite® 31S	1.0 – 1.5
PMC Biogenix Calcium Stearate	1.2 – 2.0
CrystalWax® 2054 (165°F mp)	1.0 – 1.2
Acrylic Process Aid	0.7 – 1.0
Acrylic Process Aid (Metal Release)	0.3 – 0.5
Acrylic Impact Modifier	5.0 – 6.0
Calcium Carbonate (0.8 µm)	0.0 – 5.0
Titanium Dioxide	9.0 – 10.0



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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 Organometallics account manager for further information about other high quality PMC Organometallics additives for use in PVC resins, PVC alloys and other polymer systems. PMC Organometallics produces a full line of heat stabilizers. In addition, PMC Organometallics' 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 Organometallics has developed PVC heat stabilizers specifically for extruded siding, profiles and pipe, injection molding, blow molded bottles and calendered or extruded sheet. PMC Organometallics offers a full line of stabilizers that meet FDA requirements for food contact 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

PMC Biogenix 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.

PMC Biogenix Lubricants

PMC Biogenix's lubricants include Calcium, Zinc, Lithium, and Magnesium stearates that meet FDA requirements for food contact 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, calendaring, siding, profiling, piping etc.

CrystalWax for Rigid PVC Lubrication

PMC 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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