SAFETY DATA SHEET

Issue Date 29-Jul-2014 **Revision Date** 30-Jul-2014 **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **ADVASTAB™ TM-694 HEAT STABILIZER**

Other means of identification

SDS Code TM-694
Document TM-694
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Stabilizer.
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Supplier Address
PMC Group Inc.
1288 Route 73 South
Mount Laurel, New Jersey 08054
USA

Emergency telephone number

Company Phone Number PMC Organometallix Customer Service: 1-855-638-2549
24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300
Emergency Telephone Chemtrec [INT]: +1-703-527-3887

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1A
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

DANGER

Hazard statements
Harmful if swallowed
Harmful in contact with skin
Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

Appearance No information available **Physical state** liquid **Odor** Sulphurous

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.
Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Organotin compounds.

Chemical Name	CAS No.	Weight-%	Trade Secret
Mixed methyltin mercaptoester sulfides	Proprietary	40 - 50%	*
2-Mercaptoethyl fatty acid	Proprietary	40 - 50%	*
Process Oil	Proprietary	<5	*
2-Mercaptoethanol	60-24-2	3.5	*

* The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General advice If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. (Get medical attention immediately if irritation persists.).

Skin Contact Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians For inhalation exposure consider treatment for hydrogen sulfide (H2S) exposure. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products Carbon oxides. Hydrocarbons. Oxides of sulfur. Hazardous metal fumes and oxides.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. The product is insoluble and floats on water. Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Use personal protective equipment as required. Dam up. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Hydrogen sulfide (H2S), a decomposition by-product of this material, may be present in the headspace of the container. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Incompatible with strong acids and bases, Strong oxidizing agents, Contact with acids may release hydrogen sulfide, a toxic and flammable gas that may form explosive mixtures in air, Acids, Bases, Strong reducing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Exposure limits are listed below, if they exist.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	PMC OEL
Mixed methyltin mercaptoester sulfides	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn (vacated) TWA: 0.1 mg/m³ Sn (vacated) S*	-	TWA: 0.07 mg/m³ Sn (12 hour)
Process Oil	TWA: 5 mg/m³ (oil mist)	TWA: 5 mg/m³ (oil mist)	-	-
2-Mercaptoethanol 60-24-2	-	-	-	US WEEL : 0.2 ppm STEL 0.6 ppm S*

Legend
S - Skin Absorber*
NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers, Eyewash stations, Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	Sulphurous
Color	yellow to amber	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point/freezing point		
Boiling point / boiling range	> 270 °C / 518 °F	
Flash point	125 °C / 257 °F	Setaflash
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	0
Density	1.02g/cm3 @ 77 °F
Bulk density	No information available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
At elevated temperature and in the presence of additives, such as strong acid, ethylene sulfide (CASRN 420-12-2) can form, which can polymerize and deposit on equipment, with the potential to plug pipes.

Hazardous polymerization	Hazardous polymerization does not occur.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
Incompatible with strong acids and bases, Strong oxidizing agents, Contact with acids may release hydrogen sulfide, a toxic and flammable gas that may form explosive mixtures in air, Acids, Bases, Strong reducing agents.

Hazardous Decomposition Products
Carbon oxides, Hydrocarbons, Oxides of sulfur, Hazardous metal fumes and oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No data available.

Eye contact Irritating to eyes.

Skin Contact May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Prolonged skin contact may defat the skin and produce dermatitis.

Ingestion Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis. Reacts with gastric acid to form organotin chlorides.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Mixed methyltin mercaptoester sulfides	= 300 - 2000 mg/kg bw (Rat)	>2000 mg/kg bw	>200 mg/L
Process Oil	>5000 mg/kg	>2000 mg/kg	
2-Mercaptoethanol	= 98 - 336 mg/kg (Rat) = 318 - 374 mg/kg (Mouse)	= 112 - 224 mg/kg (Rabbit) = 300 mg/kg (Guinea pig) = 190 mg/kg (Mouse)	13.2 mg/l (Mouse)

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity No information available.
Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Chemical Name	ACGIH	IARC	NTP	OSHA
Process Oil	A4			

Reproductive toxicity No information available.
STOT - single exposure No information available
STOT - repeated exposure No information available.
Chronic toxicity Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.
Target Organ Effects blood, Central nervous system, Eyes, kidney, liver, Respiratory system, Skin, Urinary Tract, heart.
Aspiration hazard Risk of serious damage to the lungs (by aspiration). Aspiration may cause pulmonary edema and pneumonitis.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	762 mg/kg
ATEmix (dermal)	1074 mg/kg
ATEmix (inhalation-dust/mist)	101 mg/l
ATEmix (inhalation-vapor)	58 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

4% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Mixed methyltin mercaptoester sulfides	= 0.64 mg/L 72 h EC50 = 0.28 mg/L NOEC Pseudokirchneriella subcapitata	0.1-1 mg/L 96 h LC50 Oncorhynchus mykiss		0.1-1 mg/L 48 h EC50 D. magna
2-Mercaptoethyl fatty acid	= 18.6: 72 h Demodesmus subspicatus mg/L EC50 = 854: 72 h Demodesmus subspicatus mg/L EC50	= 37: 96 h Leucidus idus mg/L LC50 > 1000: 96 h Pimephales mg/L LC50		= 0.9 - 1.5: 48 h Daphnia magna mg/L EC50 > 1000: 48 h Daphnia magna mg/L EC50
2-Mercaptoethanol 60-24-2	= 12: 72 h Pseudomomas mg/L EC50 = 19: 96 h Desmodesmus subspicatus mg/L	= 46 - 100: 96 h Leuciscus idus mg/L LC50 static = 187: 96 h Poecilia reticulata mg/L OECD	= 125 mg/l EC50	= 1.52: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Mixed methyltin mercaptoester sulfides	25.5
2-Mercaptoethyl fatty acid	8.45
2-Mercaptoethanol 60-24-2	-0.056

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not release this product, or any waste stream from manufacturing, processing, and use containing this product, into the waters of the United States that would result in surface water concentrations exceeding 0.5 parts per billion (ppb) cumulative concentration.

Contaminated packaging Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Mixed methyltin mercaptoester sulfides	Toxic

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Regulated. Not a recommended mode of transport. 450 L Limit Per Package.

UN/ID No.	3082
Proper shipping name	Environmentally Hazardous Substance, Liquid, N.O.S.
Hazard Class	9
Packing Group	III
Description	(Dimethyltin compound)

IMDG Technical Name	(Dimethyltin compound)
UN/ID No.	3082
Proper shipping name	Environmentally Hazardous Substance, Liquid, N.O.S.
Hazard Class	9
Packing Group	III
Marine pollutant	This material meets the definition of a marine pollutant
Description	(Dimethyltin compound)

15. REGULATORY INFORMATION

SIGNIFICANT NEW USE RULE (SNUR)
This product contains a chemical which is subject to a Significant New Use Rule (SNUR) 40 CFR 721.63 (a)(1), (a)(2)(i) to (iv), (a)(3), (b) (concentration set at 1.0%), and (c); 721.72 (a) through (e) (concentration set at 1.0%), (f), (g)(1)(i)-(v) and (viii)-(ix), (g)(2)(i)-(iii) and (v), (g)(3)(i)-(ii), (g)(4)(i), (g)(5); 721.80 (j); and 721.90(a)(4), (b)(4), and (c)(4) (N=0.5).
All of the components in the product are on the following Inventory lists
The classification and labeling information in this Safety Data Sheet should be viewed as provisional.

International Inventories

EINECS/ELINCS	Complies or Exempt
TSCA	Complies
AICS	Does not comply
DSL/NDSL	Complies
ENCS	Does not comply
KECL	Does not comply
PICCS	Does not comply
IECSC	Does not comply
NZIoC	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Any Substance regulated Title 40 of the Code of Federal Regulations, Part 372 is listed below, if it exists.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No

Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
Any Substance regulated as a pollutant pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) is listed below, if it exists.

CERCLA
Any Substance regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) is listed below, if it exists.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Process Oil	X		X
2-Mercaptoethanol 60-24-2	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA	**Health hazards** 2	**Flammability** 1	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2*	**Flammability** 1	**Physical hazards** 0	**Personal protection** X

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Revision Note
No information available

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet