

Associated Lead Inc.

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TRI-MAL®

A Stabilizer and Vulcanizing
Agent for Chlorosulfonated
Polyethylene

DS-033

DESCRIPTION

TRI-MAL is a tribasic lead salt of maleic acid in the form of a soft crystalline powder. In chlorosulfonated polyethylene, it functions as both a chlorine acceptor and vulcanizing or curing agent.

ADVANTAGES

- Excellent thermal stability
- Controlled cross linking activity
- Good color retention and weathering
- Superior water resistance in cured stock
- Resists scorching
- Good electrical insulation properties

TYPICAL PROPERTIES

Composition	Tribasic lead maleate
Form	Soft crystalline powder
Specific Gravity	6.3
Lead Content, PbO %	89.0
Moisture, loss, 2 hrs. @105°C	0.2
Fineness, through No. 325 sieve, %	99.8
Solubility	Insoluble in all common solvents

APPLICATIONS

- Wire and cable extrusions
- Mechanical stocks
- Coatings for fabrics and rubber
- Adhesives and sealants

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GENERAL RECOMMENDATIONS

The level of TRI-MAL used in chlorosulfonated polyethylene generally ranges from 20 to 30 parts. The exact level needed will depend on the rate of vulcanization desired, and the degree of heat stability and tightness of cure required.

TOXICITY AND HANDLING

Precautions should be taken when working with lead compounds. A Material Safety Data Sheet is available on request.

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NOTE: The recommendations made herein are based on our research and the research of others, and are believed to be accurate. No guarantee of their accuracy is made, however, and the products discussed are sold without warranty, express or implied, and upon condition that purchasers shall make

their own tests to determine the suitability of such products for their particular purposes. Likewise, statements concerning the possible use of these products are not intended as recommendations to use these products in infringement of any patent



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MATERIAL SAFETY DATA SHEET

SECTION I			
MANUFACTURER'S NAME ASSOCIATED LEAD, INC.		REGULATORY AFFAIRS DEPARTMENT	
STREET ADDRESS 2545 ARAMINGO AVENUE		CITY, STATE, ZIP PHILADELPHIA, PA. 19125	
PRODUCT CLASS Stabilizer	MANUFACTURER'S CODE I.D. 34033	TRADE NAME Trimal	DATE 3/1/82
			EMERGENCY TELEPHONE NO. 215-427-4681

SECTION II - HAZARDOUS INGREDIENTS					
INGREDIENT	PERCENT BY WEIGHT	TLV PPM	mg/m ³	LEL %	VAPOR PRESSURE mm Hg @ 68°F
Tribasic Lead Maleate (1) OSHA Standard, 29 CFR 1910.1025 A 2½ year implementation schedule in effect as of Jan. 11, 1982 for certain industries including cable coating, pottery, explosives, glass, ammunition and plastics and rubber manufacturing. (2) OSHA Standard, 29 CFR 1910.1000 Table Z-2 in effect during the 2½ year implementation period	100.0	--	0.05 ⁽¹⁾ 0.2 ⁽²⁾		

SECTION III - PHYSICAL DATA				
BOILING RANGE N/A				
VAPOR DENSITY	EVAPORATION RATE	% VOLATILE BY VOLUME	WEIGHT PER GALLON	SPECIFIC GRAVITY
☐ HEAVIER N/A ☐ LIGHTER THAN AIR	☐ FASTER N/A ☐ SLOWER THAN ETHER	-	-	6.3

SECTION IV - FIRE AND EXPLOSION HAZARD DATA		
DOT CATEGORY N/A	FLASH POINT N/A	LEL Unknown
EXTINGUISHING MEDIA ☒ WATER-FOG ☒ FOAM ☐ OTHER ☒ CARBON DIOXIDE ☒ DRY CHEMICAL		
UNUSUAL FIRE AND EXPLOSION HAZARDS Isolate from heat, open flames and all sources of sparks including static electricity. Use non-metallic scoops. Equipment and hoppers must be properly grounded.		
SPECIAL FIRE FIGHTING PROCEDURES None.		

SECTION V - REACTIVITY DATA	
STABILITY ☐ UNSTABLE ☒ STABLE	CONDITIONS TO AVOID Keep dust accumulation to a minimum.
HAZARDOUS DECOMPOSITION PRODUCTS On ignition, oxides of lead may be volatilized.	
HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR	CONDITIONS TO AVOID Temperatures greater than 400°F N/A—NOT APPLICABLE

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SECTION VI HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
0.050mg/m³ based on lead using engineering and work practice controls effective 2½ yrs. from 1/

EFFECTS OF OVEREXPOSURE
Depending on individual susceptibility and degree of overexposure, effects are generally seen only after long-term exposure, although short-term high-level exposure may also be poison. Symptoms may include tiredness, decreased appetite, metallic taste and stomach cramps resembling colic (intermittent rather than continuous pain). More severe symptoms could include true muscle weakness, intense headaches and on rare occasions convulsions and even more rare death. Kidney damage may occur without symptoms. Lead crosses the placenta. Fetal exposure should be kept within guidelines of the Communicable Disease Center of the U.S. Department HEW-30ug/100g of blood.

EMERGENCY AND FIRST AID PROCEDURES

Abnormal Ingestion - Induce vomiting. Use syrup of ipecac-one ounce followed by eight ounces of water. Call a physician at once.

External - The product may be removed by washing with soap and water.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear gloves, goggles and respirator. Clean area returning all material possible to container. Do not use compressed air for cleaning floors and other surfaces. These surfaces should be cleaned by vacuuming, taking care that the material is not returned to the work area.

WASTE DISPOSAL METHOD

Keep waste rags in a labeled safety container-do not incinerate. Disposal must be in accordance with state, local or federal regulation.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

NIOSH approved respiratory protection must be used in accordance with existing standards. Medical Removal Protection (MRP) and biological surveillance are necessary. Respirator must be worn if PEL of 0.05mg/m³ is exceeded. See 29CFR 1910.1025(k); 1910.134.

VENTILATION

All work areas where lead compounds are used must be ventilated to keep TLV below acceptable limits. See 29CFR 1910.94.

PROTECTIVE GLOVES

Yes

EYE PROTECTION

Yes - goggles

OTHER PROTECTIVE EQUIPMENT

Use respirator. Use clean workclothes. Change workclothes daily.

SECTION IX SPECIAL PRECAUTIONS

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Take every precaution to avoid contamination of the atmosphere. *Special care should be given to removing lead from hair and under fingernails. *Working or contaminated clothes and shoes must not be worn home. *Before entering eating areas, work clothing should be removed or lead dust vacuumed off clothing surface. *Take every precaution to avoid ingestion and inhalation. *Use gloves and avoid spilling on hands, face or body. *Do not smoke, eat or apply cosmetic in work area. *Wash hands and face thoroughly before entering into eating areas. While the information and recommendations set forth are believed to be accurate as of the date hereof, Associated Lead Inc. MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE OR ACTION BASED THEREON. Because of the nature of the product, user assumes all risk with respect to it

N/A—NOT APPLICABLE