

MATERIAL SAFETY DATA SHEET

The C.P. Hall Company
7300 S. Central Avenue, Chicago, IL 60638
Emergency Telephone No: 312/767-4605

SECTION I

Chemical Name: n-hexyl, n-octyl,
n-decyl trimellitate
Chemical Family: Ester
Formula: Indefinite
Product Name: ~~PLASTHALLO~~ Linear
Trimellitate
HMIS Number: 110
Gloves & Safety
Goggles

SECTION II - HAZARDOUS INGREDIENTS

None

SECTION III - PHYSICAL DATA

Boiling Point (°F): N/A
Vapor Pressure: Negligible
Vapor Density: N/A
Solubility in Water: Negligible
Specific Gravity: 0.97
(H₂O=1 at 25/25°C)
% Volatile by Vol: Nil
Evaporation Rate: Nil
(Water = 1)
Appearance & Odor: Clear liquid; mild odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used): COC 535°F
Extinguishing Media: CO₂, Dry Chemical, Water Fog
Flammability Limits: Not available
Special Fire Fighting Procedures: Wear MESA/NIOSH approved self-contained breathing apparatus (Sch. 13). Use water spray to cool fire-exposed containers.
Unusual Fire and Explosion Hazards: Water may cause frothing.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value: Not determined by the ACGIH.
Effects of Overexposure: Excessive fumes have disagreeable effect. In industry hazard rating considered low as skin irritation, toxicity from ingestion or inhalation.
Emergency & First Aid Procedures: In case of skin contact, remove excess oil with cloth or absorbent paper, then wash with soapy water. In case of eye contact, remove excess oil with cloth or absorbent paper then wash with water. If excessive inhalation, remove to fresh air. Consult physician for discomfort.

Product Name: PLASTHALL Linear Trimellitate

SECTION VI - REACTIVITY DATA

Stability

Unstable: Conditions to Avoid:

Stable: X

Incompatibility (Materials to Avoid): N/A

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, organic acids.

Hazardous Polymerization

May Occur: Conditions to Avoid:

Will Not Occur: X

SECTION VII - SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released or Spilled: If material is hot or comes in contact with hot objects, fumes may result. Avoid excessive breathing of fumes. Remove sources of ignition. Dousing spilled oil with water may be an initial necessary safety step.

Waste Disposal Method: Recover or collect major portion of oily plasticizer if possible with vacuum hose or other methods. Emulsify residual oil with water/detergent and further collect on solid absorbents. Follow with normal housekeeping methods. If spilled product not reusable, burn as fuel or waste.

SECTION VIII- SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type): Use only for protection from excessive fumes or emergencies-not to supplant ventilation.

Ventilation

Local Exhaust: Additional near mills, extruders, etc. to control fumes.

Mechanical (General):

Special:

Other:

Protective Gloves: Oil resistant

Other Protective Equipment: Eliminate ignition sources

Eye Protection: Splash goggles

(ANSI Z87.1, 1968)

SECTION IX - SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling And Storing: No special handling precautions are necessary; product has good stability in proper storage.

Other Precautions: None

Revision Date: 5/85 JTH

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: NOVEMBER, 1985

DO NOT DUPLICATE THIS FORM. REQUEST ORIGINAL.

Union Carbide Corporation urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

I. IDENTIFICATION

PRODUCT NAME: TRIETHANOLAMINE, COMMERCIAL

CHEMICAL NAME: Triethanolamine mixture CHEMICAL FAMILY: Alkanolamines

FORMULA: Not applicable MOLECULAR WEIGHT: Not applicable

SYNONYMS: Not applicable

CAS # Not applicable CAS NAME Not applicable (mixture)

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg	Decomposes >250°C (>482°F)	FREEZING POINT	~16°C (~61°F)
SPECIFIC GRAVITY (H ₂ O = 1)	1.126 at 20/20°C	VAPOR PRESSURE at 20°C.	<0.01 mm Hg
VAPOR DENSITY (air = 1)	~4.8	SOLUBILITY IN WATER, % by wt. at 20°C	100
APPEARANCE AND ODOR	Water-white liquid; characteristic odor.	EVAPORATION RATE (Butyl Acetate = 1)	<0.01

III. INGREDIENTS

MATERIAL	%	TLV	HAZARD
Triethanolamine	85	None established	See Section V
Diethanolamine	15	3ppm, ACGIH	See Section V

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	382°F, Pensky-Martens closed cup ASTM D 93 375°F, Cleveland open cup ASTM D 92		
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	Not determined	UPPER Not determined
EXTINGUISHING MEDIA	Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires. Use CO ₂ or dry chemical media for small fires.		
SPECIAL FIRE FIGHTING PROCEDURES	Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity. Use protective clothing, eye protection, and self-contained breathing apparatus. Use remote spray monitors or fight fire from behind shields. Oxides of nitrogen can be evolved during a fire.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

DO 087031
CONFIDENTIAL

EMERGENCY PHONE NUMBER • 1-800-UCC-HELP • This number is available days, nights, weekends, and holidays.

V. HEALTH HAZARD DATA [ADVERSE HEALTH EFFECTS WHICH MAY OCCUR FROM OVEREXPOSURE.]

TLV AND SOURCE:

See Section III

EFFECTS OF AN ACUTE OVEREXPOSURE

SWALLOWING	May cause chemical burns of the mouth, throat, esophagus, and stomach. Signs and symptoms will include pain or discomfort in the mouth, chest, and abdomen, nausea, vomiting, diarrhea, dizziness, drowsiness, faintness, weakness, collapse, and coma.
SKIN ABSORPTION	No evidence of adverse effects from available information.
INHALATION	Vapors may be irritating and cause coughing and discomfort in the nose, throat, and chest. Prolonged exposure may cause local injury to the respiratory tract.
SKIN CONTACT	Brief contact may cause irritation, seen as local redness. Prolonged contact, as with clothing wetted with the material, may cause more severe irritation.
EYE CONTACT	May cause severe irritation, seen as marked excess redness and swelling of the conjunctiva.

EFFECTS OF REPEATED OVEREXPOSURE

May possibly cause kidney and liver damage.

OTHER EFFECTS OF OVEREXPOSURE

Secondary and tertiary amines may react with nitrites to form nitrosamines. Some nitrosamines have been shown to be carcinogenic in laboratory animals. Inhalation may aggravate asthma and inflammatory or fibrotic pulmonary disease. Because of its irritating properties, this material may aggravate an existing dermatitis.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING	Give at least two glasses of milk or water, unless the patient is unconscious. Do not induce vomiting. Call a physician.
SKIN	Remove contaminated clothing and wash skin with soap and water. Wash clothing before reuse.
INHALATION	Remove to fresh air.
EYES	Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention promptly, preferably an ophthalmologist.

(continued)

V. HEALTH HAZARD DATA Continued

NOTES TO PHYSICIAN

The hazards of this material are mainly due to its severe irritant properties on the skin and mucosal surfaces. Carefully gastric lavage is required. There is no specific antidote, and treatment should be directed at the control of symptoms and the clinical condition.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID	None
UNSTABLE	STABLE		
--	X		
INCOMPATIBILITY (materials to avoid)		Strong mineral acids and strong oxidizing agents such as nitric acid, liquid oxygen, ozone.	
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS		Burning can produce nitrogen oxides, carbon monoxide and/or carbon dioxide.	
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	None
May Occur	Will Not Occur		
--	X		

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wear suitable protective equipment; avoid contact with eyes and skin. Small spills should be flushed with large quantities of water. Large spills should be collected for disposal. See Section IX.
WASTE DISPOSAL METHOD	Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations. Also, See Section IX.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None expected to be needed.		
VENTILATION	This product should be confined within covered equipment, in which case, general (mechanical) room ventilation is expected to be adequate.		
PROTECTIVE GLOVES	PVC - coated or butyl	EYE PROTECTION	Monogoggles
OTHER PROTECTIVE EQUIPMENT	Eye bath, safety shower, and chemical apron.		

(continued)

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Do not take internally
Avoid breathing vapor
Avoid contact with eyes, skin, and clothing
Keep container closed
Use with adequate ventilation
Wash thoroughly after handling

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS

Spills/Disposal - Laboratory tests show that, at very low concentration (about 10ppm) this product can be degraded in a biological wastewater treatment system. It may be feasible to flush a small spill to a sanitary sewer with large amounts of water. However, a large spill might be detrimental. If spilled material cannot be collected, it may be possible to neutralize with dilute hydrochloric acid and, then, landfill the neutral salt.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

F-48006B - ICD
11/85 - 4M
PCC - 88205
Copyright© 1985 Union Carbide Corporation

Printed in U.S.A.

DO 087034
CONFIDENTIAL

M A T E R I A L S A F E T Y D A T A S H E E T P A G E : 1
DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 27 JUN 80

PRODUCT CODE: 87719

PRODUCT NAME: TRIETHANOLAMINE 85

MSD: 0269

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS)

TRIETHANOLAMINE
DIETHANOLAMINE

: % :
: 85 :
: 15 :

SECTION 1

PHYSICAL DATA

BOILING POINT: 335-650F, 168-343C: SOL. IN WATER: COMPLETELY MISCIBLE
VAP PRESS: 0.1 MMHG @ 20C : SP. GRAVITY: 1.1 25/25C
VAP DENSITY (AIR=1): ---- : % VOLATILE BY VOL: 100
APPEARANCE AND ODOR: COLORLESS LIQUID - SLIGHTLY AMMONIACAL ODOR.

SECTION 2

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 365F, 185C : FLAMMABLE LIMITS (STP IN AIR)
METHOD USED: TAG OPEN CUP. : LFL: NOT DETER. UFL: NOT DETER.
EXTINGUISHING MEDIA: WATER FOG, ALCOHOL FOAM, CO2, DRY CHEMICAL.
SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: ----

SECTION 3

REACTIVITY DATA

STABILITY: ----
INCOMPATIBILITY: OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS: NOX AT DECOMPOSITION TEMPERATURE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 4

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): USE ABSORBENT
MATERIAL OR SAND. SCOOP UP AND PUT IN A CLEAN DRUM.
DISPOSAL METHOD: BURN IN INCINERATOR OR BURY AWAY FROM WATER SUPPLIES.

SECTION 5

HEALTH HAZARD DATA

INGESTION: LOW SINGLE DOSE ORAL TOXICITY; LD50 (RAT) APPROX. 5000 MG/KG
(TEA).
EYE CONTACT: SEVERE PAIN, MODERATE TO SEVERE IRRITATION. NO CORNEAL INJURY
LIKELY.
SKIN CONTACT: SINGLE SHORT EXPOSURE - MILD TO MODERATE IRRITATION. PROLONGED

(CONTINUED ON PAGE 2)

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY



Distributors
The C. P. HALL Company
2500 CHANNEL AVENUE
MEMPHIS, TENNESSEE 38113
901 - 948-8663
PR-54

11

2525
DO 087035
CONFIDENTIAL

M A T E R I A L S A F E T Y D A T A S H E E T P A G E : 3
DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 27 JUN 80
PRODUCT (CONT'D): TRIETHANOLAMINE 85

PRODUCT CODE: 87719
MSD: 0269

SECTION 7 SPECIAL HANDLING INFORMATION (CONTINUED)
VENTILATION: (CONTINUED)
GUIDE.

RESPIRATORY PROTECTION: NIOSH APPROVED RESPIRATORY PROTECTION REQUIRED IN
ABSENCE OF PROPER ENVIRONMENTAL CONTROL. FOR EMERGENCIES, A SELF-
CONTAINED BREATHING APPARATUS OR A FULL-FACE RESPIRATOR AS APPROVED
BY NIOSH IS RECOMMENDED.

PROTECTIVE CLOTHING: CLEAN, BODY-COVERING CLOTHING.

EYE PROTECTION: CHEMICAL WORKERS GOGGLES. EYE FOUNTAIN AND WASHING
FACILITIES NEAR WORK AREA.

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: AVOID SKIN AND EYE
CONTACT. AVOID BREATHING VAPORS IF GENERATED.

ADDITIONAL INFORMATION: 27 JUN 80 REVISIONS 24 APR 79 --
SECTION 5.

LAST PAGE

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY,
EXPRESS OR IMPLIED, IS MADE.

DO 087036
CONFIDENTIAL

NPVLA 6-70

(Approved by U.S. Department of Labor "Essentially Similar" to Form LBB-008-4)

MANUFACTURER'S NAME

N L Industries, Inc., Pigments and Chemicals Division

STREET ADDRESS

Post Office Box 420

CITY STATE AND ZIP CODE

Hightstown, New Jersey 08520

EMERGENCY TELEPHONE NO.

609-448-3200

EXT. 473

Manager, Quality Control

CHEMICAL NAME AND SYNONYMS

Tribasic Lead Sulfate

TRADE NAME

TRIBASE

CHEMICAL FAMILY

FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS

Section III — PHYSICAL DATA

Section IV – FIRE AND EXPLOSION HAZARD DATA

EXTENDING FISHING MEDIA

Chemical, Foam, CO₂, Water, (fog)

SPECIAL FIRE FIGHTING PROCEDURES

No special fire hazards anticipated

DO 087037
CONFIDENTIAL

UNUSUAL FIRE AND EXPLOSION HAZARDS

None known

Reference Section II

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Prolonged excessive absorption of inorganic lead by ingestion or inhalation
EFFECTS OF OVEREXPOSURE	of dust and fume is characterized by abdominal pain (lead colic) metallic taste in mouth, loss of weight, pains in muscles and muscular weakness. The similarity of these symptoms with those of other illnesses require that excessive absorption of lead be verified by medical examination and analysis of biological specimens.
EMERGENCY AND FIRST AID PROCEDURES	Consult a physician if you have symptoms of illness.
Abnormal Ingestion: Call a physician at once. As first aid, induce vomiting, give milk, and magnesium sulfate, (Epsom Salt). External: Normal work day accumulations can be effectively cleansed with soap and water. Eyes: Use first aid procedure for dust.	

Section VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS Pb, PbO			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Sweep carefully, wear gloves, goggles, and respirator
WASTE DISPOSAL METHOD	Landfill or smelter. Disposal must be done in accordance with local, state, and Federal regulations.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		Dust and/or fume respirator (Bureau of Mines Approved)	
VENTILATION	LOCAL EXHAUST	Ventilation provided as required by job condition to keep TLV listed in Section II below acceptable limits.	
	MECHANICAL (General)	OTHER	
PROTECTIVE GLOVES	Yes	EYE PROTECTION	Goggles
OTHER PROTECTIVE EQUIPMENT Change in work clothes.			

Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid dusting. Personnel must wear prescribed protective equipment.
OTHER PRECAUTIONS	

DO 087038
CONFIDENTIAL

April 24, 1973

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form L88-008-4)

NPVLA 6-70

Section I

MANUFACTURER'S NAME		N L Industries, Inc., Pigments and Chemicals Division	
STREET ADDRESS		Post Office Box 420	
CITY, STATE, AND ZIP CODE		Hightstown, New Jersey 08520	
EMERGENCY TELEPHONE NO.		609-448-3200	EXT. 473 Manager, Quality Control
CHEMICAL NAME AND SYNONYMS		TRADE NAME	
Modified Tribasic Lead Sulfate		TRIBASE AG	
CHEMICAL FAMILY		FORMULA	
Lead Chemical			

Section II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS

PIGMENTS	%	TLV (Units)	SOLVENTS	%	TLV (Units)
CATALYST			ADDITIVES		
VEHICLE			OTHERS		

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

	%	TLV (Units)
Pb	73	0.2mg/

Section III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	3.6
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (≈1)	N/A
SOLUBILITY IN WATER	Insol.		
APPEARANCE AND ODOR	Off-white powder		

DO 087039
CONFIDENTIAL

Section IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMIT (METHOD USED)	N/A	FLAMMABLE LIMITS	N/A	LEL	UEL
EXTINGUISHING MEDIA	Chemical, Foam, CO ₂ , Water, (fog) on fires involving Tribase AG				
SPECIAL FIRE FIGHTING PROCEDURES	No special fire hazards anticipated				

UNUSUAL FIRE AND EXPLOSION HAZARDS Product will ignite if it comes directly in contact with a flame source

Reference Section II

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Prolonged excessive absorption of inorganic lead by ingestion or inhalation
EFFECTS OF OVEREXPOSURE	of dust and fume is characterized by abdominal pain (lead colic) metallic taste in mouth, loss of weight, pains in muscles and muscular weakness. The similarity of these symptoms with those of other illnesses require that excessive absorption of lead be verified by medical examination and analysis of biological specimens.
EMERGENCY AND FIRST AID PROCEDURES	Consult a physician if you have symptoms of illness.
Abnormal Ingestion: Call a physician at once. As first aid, induce vomiting, give milk, and magnesium sulfate, (Epsom Salt). External: Normal work day accumulations can be effectively cleansed with soap and water. Eyes: Use first aid procedure for dust.	

Section VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS Pb, PbO			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Sweep carefully, wear gloves, goggles, and respirator.
WASTE DISPOSAL METHOD	Landfill or smelter. Disposal must be done in accordance with local, state, and Federal regulations.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Dust and/or fume respirator (Bureau of Mines Approved)			
VENTILATION	LOCAL EXHAUST	Ventilation provided as required by job condition to keep TLV listed in Section II below acceptable limits.	
	MECHANICAL (General)	OTHER	
PROTECTIVE GLOVES	Yes	EYE PROTECTION	Goggles
OTHER PROTECTIVE EQUIPMENT Proper ventilation in work areas			

Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid dusting. Personnel must wear prescribed protective equipment.
OTHER PRECAUTIONS	Product coating melts at 70°C.

DO 087040
CONFIDENTIAL

May 1, 1973

MATERIAL SAFETY DATA SHEET

NPVLA 6-70

(Approved by U.S. Department of Labor "Essentially Similar" to Form L88-008-4)

Section I

MANUFACTURER'S NAME

N L Industries, Inc.; Pigments and Chemicals Division

STREET ADDRESS

Post Office Box 420

CITY, STATE, AND ZIP CODE

Hightstown, New Jersey 08520

EMERGENCY TELEPHONE NO

609-448-3200 EXT 473 Manager, Quality Control

CHEMICAL NAME AND SYNONYMS

Modified Tribasic Lead Sulfate

TRADE NAME

TRIBASE XL

CHEMICAL FAMILY

FORMULA

Section II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS

PIGMENTS	%	TLV (Units)	SOLVENTS	%	TLV (Units)
CATALYST			ADDITIVES		
VEH			OTHERS		
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
				Pb	74 0.2mg/l

Section III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	4.6
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (≈1)	N/A
SOLUBILITY IN WATER	Insol.		
APPEARANCE AND ODOR	Off-white powder		

Section IV - FIRE AND EXPLOSION HAZARD DATA

LAB TEST METHOD USED	N/A	FLAMMABLE LIMITS	N/A	LEL	UEL
EXTINGUISHING MEDIA	Chemical, Foam, CO ₂ , Water (fog) on fires involving TRIBASE XL				
SPECIAL FIRE FIGHTING PROCEDURES	Observe normal precautions for a combustible dust.				
UNUSUAL FIRE AND EXPLOSION HAZARDS	None known				

DO 087041
CONFIDENTIAL

Reference Section II

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Prolonged excessive absorption of inorganic lead by ingestion or inhalation of

EFFECTS OF OVEREXPOSURE dust and fume is characterized by abdominal pain (lead colic) metallic taste in mouth, loss of weight, pains in muscles and muscular weakness. The similarity of these symptoms with those of other illnesses require that excessive absorption of lead be verified by medical examination and analysis of biological specimens.

EMERGENCY AND FIRST AID PROCEDURES

Consult a physician if you have symptoms of illness.

Abnormal Ingestion: Call a physician at once. As first aid, induce vomiting, give milk, and magnesium sulfate, (Epsom Salt). External: Normal work day accumulations can be effectively cleansed with soap and water. Eyes: Use first aid procedure for dust.

Section VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS Pb, PbO			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Sweep carefully, wear gloves, goggles, and respirator

WASTE DISPOSAL METHOD Landfill or smelter. Disposal must be done in accordance with local, state, and Federal regulations.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		
Dust and/or fume respirator (Bureau of Mines Approved)		
VENTILATION	LOCAL EXHAUST	Ventilation provided as required by job condition to keep TLV listed in Section II below acceptable limits.
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Yes	EYE PROTECTION Goggles
OTHER PROTECTIVE EQUIPMENT Change in work clothes		

Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid dusting. Personnel must wear prescribed protective equipment.

OTHER PRECAUTIONS

DO 087042
CONFIDENTIAL

May 1, 1973

MATERIAL SAFETY DATA SHEET

NPCA

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor, Essentially Similar to Form OSHA-20)

*File
OSHA File in
Library*

DATE OF PREP.

Section I

MANUFACTURER'S NAME Haven Chemical

STREET ADDRESS 5000 Langdon St. CITY, STATE, AND ZIP CODE Philadelphia, Pa. 19124

EMERGENCY TELEPHONE NO 215-533-0900

PRODUCT CLASS Ester

MANUFACTURER'S CODE IDENTIFICATION

TRADE NAME Triallyl Trimellitate TATM Haven 210

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV		LEL	VAPOR PRESSURE
		PPM	mg/m ³		
None					

Section III — PHYSICAL DATA

BOILING RANGE 320°F (0.1mm)

VAPOR DENSITY ☒ HEAVIER ☐ LIGHTER THAN AIR

EVAPORATION RATE ☐ FASTER ☒ SLOWER THAN ETHER
Nil

PERCENT VOLATILE BY VOLUME Nil

WEIGHT PER GALLON 9.6

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY

FLASH POINT 280°F.
(Tag Closed Cup)

LEL

EXTINGUISHING MEDIA CO₂, dry chemical, water fog

UNUSUAL FIRE AND EXPLOSION HAZARDS Fumes of allylic compounds may be produced.

SPE FIRE FIGHTING PROCEDURES Use self-contained breathing apparatus to avoid fumes of allylic compounds.

DO 087043
CONFIDENTIAL

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE Pulmonary edema, corneal burns of eyes.

EMERGENCY AND FIRST AID PROCEDURES For oral ingestion induce vomiting and hospitalize. For eye contact, flush with water, for skin contact, wash with soap & water.

Section VI - REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE

CONDITIONS TO AVOID

UV light exposure, temperature over 200°F.

INCOMPATIBILITY (Materials to avoid) Base & oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS Allylic compounds.

HAZARDOUS POLYMERIZATION ☒ MAY OCCUR ☐ WILL NOT OCCUR

CONDITIONS TO AVOID UV light exposure, temperatures over 200°F.

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN, IN CASE MATERIAL IS RELEASED HOW FILLED

Flush away spilled material with large volumes of water.

WASTE DISPOSAL METHOD

Incinerate in an approved furnace.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION not required at ambient temperatures; at temperatures in excess of 150°F., air pack should be worn.

VENTILATION Local Exhaust: preferable
Mechanical (General): acceptable.

PROTECTIVE GLOVES neoprene rubber; PVC

EYE PROTECTION Safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT safety shower, eye bath and apron.

Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Triallyl Trimellitate is stable to prolonged storage at 80°F. or lower. The shelf life is limited if peroxides are added. UV light or temperatures greater than 200°F. can cause polymerization. Avoid long or extensive exposure to immersion. Triallyl trimellitate is not a primary irritant to the skin but certain individuals may show a reaction to it.

DO 087044
CONFIDENTIAL

ALCOLAC

THE SPECIALISTS IN
SPECIALTY CHEMICALS

3440 FAIRFIELD ROAD / BALTIMORE, MD. 21226 / 301-355-2600

HAZARD RATING:

4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT

Fire

1

1

2

Health

Special

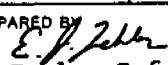
Reactivity

Special

MATERIAL SAFETY DATA SHEET

MATERIAL SIPOMER TATM		CODE 55-06-08	FREIGHT CLASSIFICATION Chemical NOS
FORMULA $C_{18}H_{18}O_6$		CHEMICAL NAME AND SYNONYMS Triallyl Trimellitate TATM	
I. HAZARDOUS INFORMATION			
SUMMARY		WEIGHT %	TWA/TLV
Triallyl Trimellitate Allyl Alcohol Water		98.7 0.01 0.15	Not established
II. PHYSICAL DATA			
APPEARANCE — ODOR — PH. Pale yellow liquid, mild odor, pH 7		VISCOSITY 45 cps @ 20°C	
MELTING OR FREEZING POINT — POLY -52.5F Point	BOILING POINT 160°C @ 1mm Hg.	VAPOR PRESSURE (MM HG) Not available	VAPOR DENSITY (AIR = 1) >1
SOLUBILITY IN WATER Insoluble	PERCENT VOLATILE (BY WT.) 100	SPECIFIC GRAVITY (WATER = 1) 1.165 @ 20°C	EVAPORATION RATE (BY AC = 1) <<1
III. FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT 203°F (TCC)	AUTO IGNITION TEMPERATURE 447°F	LOWER EXPLOSION LIMIT Not available	UPPER EXPLOSION LIMIT Not available
EXTINGUISHING MEDIA ☒ FOAM ☐ "ALCOHOL" FOAM ☒ CO ₂ ☒ DRY CHEMICAL ☐ WATER FOG ☐ OTHER			
SPECIAL FIRE FIGHTING PROCEDURES No special procedures			
UNUSUAL FIRE AND EXPLOSION HAZARDS No unusual hazards			
IV. HEALTH DATA			
RECOMMENDED HEALTH GUIDE TWA (MAXIMUM TIME WEIGHTED AVERAGE CONCENTRATION FOR AN 8-HOUR WORK PERIOD) Not available for this product. Other lower acrylic esters recommend TWA approximately 50 ppm.			
EFFECTS OF OVEREXPOSURE Irritation of eyes, nose throat; dermatitis may occur on repeated or prolonged contact.			
ST AID PROCEDURES EMERGENCY	INHALATION Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep person warm and resting. Seek medical attention as soon as possible.		
	EYE AND SKIN CONTACT Immediately flush eyes with copious amounts of water, occasionally lifting eyelids. Get medical attention immediately. Promptly wash the contaminated skin with soap and water. Remove any contaminated clothing. Get medical attention for persistent irritation. Clean clothing before reuse.		
	INGESTION Call a physician or poison control center. Drink 1 to 2 glasses of water. Do not induce vomiting or give anything by mouth to an unconscious person.		

DO 087045
CONFIDENTIAL

VI. ACTIVITY DATA				
STABILITY ☒ STABLE ☐ UNSTABLE		CONDITIONS TO AVOID NA		
HAZARDOUS DECOMPOSITION PRODUCTS Oxides of Carbon and partially burned carbon products.				
HAZARDOUS POLYMERIZATION ☒ MAY OCCUR ☐ WILL NOT OCCUR		CONDITIONS TO AVOID NA		
INCOMPATIBILITY (MATERIALS TO AVOID) ☐ WATER ☒ OTHER Caustic, mineral acids may liberate allyl alcohol				
VII. SPILL OR LEAK PROCEDURE				
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Dike and absorb on sand or other industrial absorbent. Clean up area and ventilate completely. Thoroughly wash area to remove any residual product.				
WASTE DISPOSAL METHODS Incinerate in approved equipment according to local, state and federal regulations.				
VIII. SPECIAL PROTECTION INFORMATION				
TYPE VENTILATION Local exhaust at the point of formulation.				
RESPIRATORY PROTECTION Organic vapor cartridge with full face respirator.				
PROTECTIVE GLOVES Rubber		EYE PROTECTION Goggles		
OTHER PROTECTIVE EQUIPMENT Clothing to prevent repeated or prolonged skin contact.				
IX. STORAGE AND LABELING				
INDOOR yes	HEATED no	REFRIGERATED 75°F	OUTDOOR no	STORAGE TEMPERATURE MAX. 75°F MIN. 40°F
COMMENTS Store in cool, dark, dry area. Avoid exposure to U.V. light.				
X. TOXICITY INFORMATION				
LD ₅₀ Oral (rats): 1.8 g/kg Acute dermal toxicity (rabbits): >2.0 g/kg Primary Eye Irritation (Draize): 1.67				
XI. MISCELLANEOUS INFORMATION				
Refractive Index 1.5229				
		Distributors The C. P. HALL Company 2500 CHANNEL AVENUE MEMPHIS, TENNESSEE 38113 901 - 948-8663 PR-54		
NA = NOT APPLICABLE (C) = CEILING VALUE CODE CAS # 2694-54-4		THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSON PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHER MORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.		
		DATE OF ISSUE 1/86	SUPERSEDES 8/84	
		PREPARED BY  E. Zehler-Safety Director		

DO 087046
CONFIDENTIAL