



SAFETY DATA SHEET

This safety data sheet complies with the requirements of: 29CFR1910.1200

Issue Date 11-May-2015

Revision Date 27-May-2015

Version 1

Product identifier

Product Name Thermoplastic Aluminum Mastic

Other means of identification

Product Code LUCAS 3500

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Reflective Roof Coating.

Uses advised against For exterior use only. Do not use indoors.

Details of the supplier of the safety data sheet

Manufacturer Address R.M. Lucas Company
3211 South Wood Street
Chicago, Illinois 60608
(773) 523-4300

Emergency telephone number

Emergency Telephone Call CHEMTREC Day or Night:
Within USA and Canada: 1-800 424-9300
Outside USA and Canada: 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)

Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable liquids	Category 3

Label elements

Emergency Overview

Danger

Hazard statements

Causes damage to organs through prolonged or repeated exposure

May be fatal if swallowed and enters airways

Flammable liquid and vapor



Appearance Viscous

Physical state Liquid

Odor Solvent (Mineral Spirits)

associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Eye contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin contact	Wash thoroughly with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. If continued difficulty with breathing is experienced, get medical attention immediately.
Ingestion	Not an expected route of exposure. If swallowed, do not induce vomiting. Get medical attention immediately.
Self-protection of the first aider	First aider: Pay attention to self-protection!.

Most important symptoms and effects, both acute and delayed

Symptoms May cause skin irritation. May cause eye irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical. Carbon dioxide (CO₂). Sand. Use foam or water FOG as a last resort.

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

Specific hazards arising from the chemical

Sealed container may rupture/burst when heated or exposed to excessive heat.

Hazardous combustion products Thermal decomposition (burning) may release irritating, corrosive and/or toxic gases, vapors and fumes.

Explosion data

Sensitivity to Mechanical Impact Not sensitive.

Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

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 No action should be taken involving any personal risk or without suitable training. Use personal protective equipment as required.

Other Information Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering sewers, drains, or waterways. Local authorities should be advised if significant spillages can not be contained. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Contain spillage with non-combustible absorbent material, e.g. sand, earth, diatomaceous earth, vermiculite.

Methods for cleaning up Pick up the absorbed material (described just above) and transfer to properly labeled containers for disposal according to local / national regulations (see Section 13).

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Remove all sources of ignition. Use only outdoors.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, dry, well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition.

Incompatible materials Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines No ACGIH or OSHA PEL is assigned to this mixture. Exposure limits for the component materials are shown below. This product, as supplied, is not believed to contain any hazardous material that exceeds exposure limits established by OSHA. .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Mineral Spirits (with < 0.1% Benzene) 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m ³	IDLH: 20000 mg/m ³ Ceiling: 1800 mg/m ³ 15 min TWA: 350 mg/m ³
Aluminum Powder 7429-90-5	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 5 mg/m ³ Al
1,2,4 Trimethylbenzene 95-63-6	-	-	TWA: 25 ppm TWA: 125 mg/m ³

Appropriate engineering controls

Engineering Controls Use natural cross ventilation, local (mechanical) pick-up, and/or general area mechanical cross ventilation. Ventilation pattern should be designed to prevent accumulation of asphalt vapors. Ventilation must be sufficient to maintain asphalt vapor concentrations below the TWA limits outlined above.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing that is resistant to chemical penetration.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, a NIOSH/MSHA approved respiratory protection

should be worn.

General Hygiene Considerations Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Solvent (Mineral Spirits)
Appearance	Viscous	Odor threshold	1-30 PPM. Odor thresholds vary greatly. Do not rely on odor threshold alone to determine potentially hazardous substances.
Color	metallic		
Property	Values	Remarks • Method	
pH	Not applicable		
Melting point/freezing point	None / -70 °C None / -94 °F	Melting Point is not applicable. Freezing points are shown.	
Boiling point / boiling range	> 154 °C / 310 °F		
Flash point	> 40.5 °C / > 105 °F	Setaflash	
Evaporation rate	0.1	Butly acetate = 1	
Flammability (solid, gas)	No information available		
Flammability Limit in Air		Flammable above 105 degrees F and 40.5 degrees C.	
Upper flammability limit:	7.0		
Lower flammability limit:	1.6		
Vapor pressure	0.3 (kPa)	@ 20 °C	
Vapor density	5.3	Where: Air = 1 at 68 degrees F (20 degrees C)	
Specific Gravity	1.10	Water = 1g/ml	
Water solubility	Insoluble		
Solubility in other solvents	Soluble in aromatic and aliphatic solvents.		
Partition coefficient	No information available	No data available.	
Autoignition temperature	330 °C / 626 °F		
Decomposition temperature	No information available		
Kinematic viscosity	No information available		
Dynamic viscosity	No information available		
Explosive properties	Vapor accumulation could flash or explode if ignited.		
Oxidizing properties	None		
<u>Other Information</u>			
Softening point	Not applicable		
Molecular weight	No information available		
VOC Content (%)	Less than 550 g/l.		
Density	9.0 to 9.4 10lb/gal		
Bulk density	Not applicable		

10. STABILITY AND REACTIVITY

Reactivity
Not applicable Not applicable

Chemical stability
Stable.

Possibility of Hazardous Reactions
None under normal use.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Avoid static discharge. Avoid heat, sparks, and open flame.

Incompatible materials

Strong acids. Strong oxidizing agents.

Hazardous Decomposition Products

Combustion may produce carbon monoxide, carbon dioxide, and other asphyxiants.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Toxicological testing has not been conducted for this product overall. Available toxicological data for individual ingredients are summarized below.

Inhalation Avoid breathing vapors or mists.

Eye contact Avoid contact with eyes. Contact with eyes may cause irritation.

Skin contact May cause irritation.

Ingestion If swallowed, do not induce vomiting. Get medical attention immediately. Not an expected route of exposure.

Component Information

The IARC Monograph (Vol 93, 2010, Carbon Black, Titanium Dioxide, Talc) states: "No significant exposure to primary particles of Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints."
* No significant exposure to Crystalline Silica (Quartz) is thought to occur during the use of products in which Crystalline Silica (Quartz) is bound to other materials, such as in paints and coatings. As one reference, see California Office of Health Hazard Assessment at: http://www.oehha.org/prop65/CRNR_notices/safe_use/sylicasud2.html

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Aromatic Naptha (with <0.1% Benzene) 64742-95-6	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
1,2,4 Trimethylbenzene 95-63-6	= 3400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m ³ (Rat) 4 h

Information on toxicological effects

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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

Skin corrosion/irritation Can cause skin irritation.

Serious eye damage/eye irritation Irritating to eyes.

Irritation Irritating to eyes, respiratory system and skin.

Corrosivity Not classified.

Sensitization May cause sensitization of susceptible persons.

Germ cell mutagenicity This product does not contain any ingredients that cause germ cell mutagenicity.

Carcinogenicity The table below indicates whether each agency (ACGIH, IARC, NTP, or OSHA) has listed any ingredient as a carcinogen.

Legend

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not classifiable as a human carcinogen.

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity None known.

Developmental Toxicity None known.

Teratogenicity	None known.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Numerical measures of toxicity - No information available

The following values are calculated based on chapter 3.1 of the GHS document For exterior use only. Do not use indoors.

ATEmix (oral)	14,242.00
ATEmix (dermal)	5,421.00
ATEmix (inhalation-dust/mist)	12.50

12. ECOLOGICAL INFORMATION**Ecotoxicity**

69 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Aromatic Naptha (with <0.1% Benzene) 64742-95-6	-	9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50
1,2,4 Trimethylbenzene 95-63-6	-	7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through	6.14: 48 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Chemical Name	Partition coefficient
1,2,4 Trimethylbenzene 95-63-6	3.63

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable local, regional, national and international laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	California Hazardous Waste Status
Aluminum Powder 7429-90-5	Ignitable powder

14. TRANSPORT INFORMATION**DOT**

Proper shipping name	Combustible liquid, n.o.s (mineral spirits)
Hazard Class	3
Packing Group	III

TDG

UN/ID no.	NA 1993
------------------	---------

Proper shipping name	Combustible liquid, n.o.s (mineral spirits)
Hazard Class	3
Packing Group	III
MEX	Regulated Not regulated.
UN/ID no.	NA 1993
Proper shipping name	Combustible liquid, n.o.s. (mineral spirits)
ICAO (air)	Regulated Not regulated.
UN/ID no.	1993
IATA	Regulated Not regulated.
UN/ID no.	1993
IMDG	Regulated Not regulated.
UN/ID no.	1993
RID	Not applicable in the United States. Not regulated.
ADR	Not applicable in the United States. Not regulated.
ADN	Not applicable in the United States. Not regulated.

15. REGULATORY INFORMATION

International Inventories

TSCA	All of the components of this product are listed on the US TSCA (Toxic Substances Control Act) Inventory or are exempt.
DSL/NDSL	All of the components of this product are listed on the DSL.

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Aluminum Powder - 7429-90-5	1.0
1,2,4 Trimethylbenzene - 95-63-6	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product contains the following substances regulated by various State Right-to-Know regulations.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Mineral Spirits (with < 0.1% Benzene) 8052-41-3	X	X	X
Aluminum Powder 7429-90-5	X	X	X
1,2,4 Trimethylbenzene 95-63-6	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION
--

<u>NFPA</u>	Health hazards 2	Flammability 2	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 2	Flammability 2	Physical hazards 0	Personal protection -
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Prepared By Prepared by Robert Barry

Issue Date 11-May-2015

Revision Date 27-May-2015

Revision Note

No information available

Disclaimer

The information provided in this 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