SAFETY DATA SHEET

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

Issue Date 01-Jun-2018 **Revision Date** 21-Dec-2018 **Version** 3

Product identifier

Product Name Aluminum Coating

Other means of identification

Product Code LUCAS 758
UN/ID no. 1993
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, Illnois 60608
(773) 523-4300

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

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

Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable liquids	Category 3

Label elements

Emergency Overview

Danger

Hazard statements
May cause genetic defects
May cause cancer
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)

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
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed when product is not in use.
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ventilating/lighting/equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

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

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
• May be harmful in contact with skin
Unknown acute toxicity 99.999995% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Mixture
This product is a mixture.
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Common name Aluminum Roof Coating.
Synonyms None.
Chemical nature Organic solvents and additives.

Chemical Name	CAS No.	Weight-%	Trade Secret
Mineral Spirits (with < 0.1% Benzene)	8052-41-3	30 - 40%	*
Aluminum Powder	7429-90-5	20 - 30%	*

Asphalt (at Ambient Temperature)	8052-42-4	10 - 20%	*
Naphtha, petroleum, hydrodesulfurized heavy	64742-82-1	0 - 10%	*
Cellulose Fiber	9004-34-6	0 - 10%	*
Nonane	111-84-2	0 - 10%	*

4. FIRST AID MEASURES

Description of first aid measures

General advice Contains petroleum distillate. Harmful or fatal if swallowed.Vapor harmful. May affect the brain or central nervous system causing dizziness, headache, or nausea. Reports have 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/m³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m³	IDLH: 20000 mg/m³ Ceiling: 1800 mg/m³ 15 min TWA: 350 mg/m³
Aluminum Powder 7429-90-5	TWA: 1 mg/m³ respirable particulate matter	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al Aluminum	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust TWA: 5 mg/m³ Al
Asphalt (at Ambient Temperature) 8052-42-4	TWA: 0.5 mg/m³ benzene-soluble aerosol fume, inhalable particulate matter	-	Ceiling: 5 mg/m³ fume 15 min
Cellulose Fiber 9004-34-6	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust TWA: 1 mg/m³

		(vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ (vacated) STEL: 10 mg/m³	
Nonane 111-84-2	TWA: 200 ppm	(vacated) TWA: 200 ppm (vacated) TWA: 1050 mg/m³	TWA: 200 ppm TWA: 1050 mg/m³

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 vapors. Ventilation must be sufficient to maintain 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		
Appearance	Viscous	**Odor**	Solvent (Mineral Spirits)
Color	Aluminum (Silver)	**Odor threshold**	1-30 PPM. Odor thresholds vary greatly. Do not rely on odor threshold alone to determine potentially hazardous substances.

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	0.98	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	

Other Information

Softening point	Not applicable
Molecular weight	No information available
VOC Content (%)	Less than 440 g/l
Density	8.0 to 8.4 lb/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 individualingredients 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. 103, 2013, Bitumen and Bitumen Emissions) defines Asphalt as 'Group 2B, Possible Carcinogen to Humans'. This definition is based on studies of exposure to Asphalt fumes at elevated temperatures. The Monograph states that temperature plays an important role in determining the degree of exposure and also the carcinogenic potential of bitumen emissions. This same Monograph states that Asphalt is non volatile at ambient temperature. There is no data presented in the Monograph to demonstrate that Asphalt at ambient temperature is considered a carcinogen. Since the normal use of this product is at ambient temperature, the Asphalt used in this product is not listed as a carcinogen. No other national or international agency has defined Asphalt as a carcinogen.

* 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
Asphalt (at Ambient Temperature) 8052-42-4	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 94.4 mg/m³ (Rat) 4.5 h
Naphtha, petroleum, hydrodesulfurized heavy 64742-82-1	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	-
Cellulose Fiber 9004-34-6	> 5 g/kg (Rat)	> 2 g/kg (Rabbit) > 2000 mg/kg (Rabbit)	> 5800 mg/m³ (Rat) 4 h
Nonane 111-84-2	-	-	= 3200 ppm (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 Contains a known or suspected mutagen.
Carcinogenicity The table below indicates whether each agency (ACGIH, IARC, NTP, or OSHA) has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Cellulose Fiber 9004-34-6	-	-	Known	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
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.
NTP (National Toxicology Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity None known for product as a whole.
Developmental Toxicity None known for product as a whole.
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) 5,005.00
ATEmix (dermal) 2,111.00
ATEmix (inhalation-dust/mist) 5.81
ATEmix (inhalation-vapor) 3,200.00

12. ECOLOGICAL INFORMATION

Ecotoxicity

21.73918 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Naphtha, petroleum, hydrodesulfurized heavy 64742-82-1	-	-	2.6: 96 h Chaetogammarus marinus mg/L LC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Asphalt (at Ambient Temperature) 8052-42-4	>6

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

UN/ID no. 1993
Proper shipping name Combustible liquid, n.o.s
Hazard Class 3
Packing Group III
Special Provisions Not regulated for transport in non-bulk containers with a capacity of 118 gallons or less.

TDG

UN/ID no. 1993
Proper shipping name Combustible liquid, n.o.s (mineral spirits)
Hazard Class 3
Packing Group III

UN/ID no. 1993
Proper shipping name Combustible liquid, n.o.s.

UN/ID no. 1993

UN/ID no. 1993

UN/ID no. 1993

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

SARA 311/312 Hazard Categories

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

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

Chemical Name	California Proposition 65
Cellulose Fiber - 9004-34-6	Carcinogen

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
Asphalt (at Ambient Temperature) 8052-42-4	X	X	X
Cellulose Fiber 9004-34-6	X	X	X
Nonane 111-84-2	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

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

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Prepared By Prepared by Adam Dunn
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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