



SAFETY DATA SHEET

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

Issue Date 11-May-2015

Revision Date 04-Jun-2015

Version 1

Product identifier

Product Name E Factor Radiant Barrier

Other means of identification

Product Code LUCAS 3300

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Architectural 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)

Label elements

Emergency Overview

Appearance Viscous

Physical state Liquid

Odor Low

Precautionary Statements - Disposal

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

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Unknown acute toxicity 3% 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 Asphalt Emulsion Roof Coating.
Synonyms None.
Chemical nature Aqueous solution.

Chemical Name	CAS No.	Weight-%	Trade Secret
Water	7732-18-5	70 - 80%	*
Aluminum Powder	7429-90-5	20 - 30%	*
Acrylic Co-Polymer	25035-69-2	0 - 10%	*

4. FIRST AID MEASURES

Description of first aid measures

General advice Under conditions of normal use, no hazards are anticipated which require special first aid measures.

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

No information available.

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 Not sensitive.

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 Extremely slippery when spilled.

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. Use only outdoors.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep from freezing. Keep containers tightly closed in a cool, dry, well-ventilated place.

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
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

Appropriate engineering controls

Engineering Controls None under normal outdoor use conditions.

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.
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	Low
Appearance	Viscous	Odor threshold	Negligible odor.
Color	silver		
Property	Values	Remarks • Method	
pH	Not applicable		
Melting point/freezing point	N/A / 0 °C N/A / 32 °F	Melting Point is not applicable. Freezing points are shown.	
Boiling point / boiling range	> 100 °C / 212 °F		
Flash point	N/A °C / N/A °F	Non Flammable	
Evaporation rate	The evaporation rate of the water component of this emulsion product is dependent upon: 1) The temperature of the water at the air-water surface; 2) The humidity of the air; 3) The area of the air-water surface; 4) The temperature of the air. No information available	No data available. Evaporation rate is dependent upon atmospheric conditions.	
Flammability (solid, gas)	Non Flammable		
Flammability Limit in Air		Not flammable	
Upper flammability limit:	Not applicable		
Lower flammability limit:	Not applicable		
Vapor pressure	2.33 (kPa)	@ 20 °C	
Vapor density	5.3	Where: Air = 1 at 68 degrees F (20 degrees C)	
Specific Gravity	1.06	Water = 1g/ml	
Water solubility	Dispersible		
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	Not an explosive		
Oxidizing properties	None		
<u>Other Information</u>			
Softening point	Not applicable		
Molecular weight	No information available		
VOC Content (%)	Less than 50 g/l		
Density	8.6 to 8.9 lb/gal		
Bulk density	Not applicable		

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
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**

None known.

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. 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.
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Information on toxicological effects

Symptoms	No information available.
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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 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	
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 - Product Information

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

ATEmix (oral) 20,854.00
ATEmix (dermal) 10,010.00

12. ECOLOGICAL INFORMATION

Ecotoxicity

31 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

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

Note:

This material is not subject to regulation as a hazardous material for shipping

DOT

Not regulated.

TDG

Not regulated.

MEX

Not regulated.

ICAO (air)

Not regulated.

IATA

Not regulated.

IMDG

Not regulated.

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 does not contain any 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	No
Chronic Health Hazard	No
Fire hazard	No
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 does not contain any 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
Aluminum Powder 7429-90-5	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 1	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 1	Flammability 0	Physical hazards 0	Personal protection -

Prepared By Prepared by Robert Barry

Issue Date 11-May-2015

Revision Date 04-Jun-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