



Seaboard Modified Emulsion Coating EF-400

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/06/2015 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Seaboard Modified Emulsion Coating
Product code : EF-400

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Asphalt Emulsion Coating

1.3. Details of the supplier of the safety data sheet

Seaboard Asphalt Products Co.
3601 Fairfield Road
Baltimore, MD 21226
1-800-563-0332

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin Sens. 1 H317
Carc. 1A H350

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

GHS08

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H317 - May cause an allergic skin reaction
H350 - May cause cancer
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing vapors
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective equipment
P302+P352 - If on skin: Wash with plenty of soap and water
P308+P313 - If exposed or concerned: Get medical advice/attention
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards

Other hazards not contributing to the classification : Vapors and gases from heated asphalt may contain hydrogen sulfide and may be irritating to the eyes and skin. Skin contact with asphalt may cause skin irritation and allergic reactions in some individuals. Hot material may cause burns.

2.4. Unknown acute toxicity (GHS-US)

None of the ingredients in the mixture are of unknown toxicity

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable – product is a mixture

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Asphalt	(CAS No) 8052-42-4	60 – 70*	Carc. 2, H351

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Name	Product identifier	%	Classification (GHS-US)
1,3-Butadiene	(CAS No) 106-99-0	< 2*	Carc. 1A, H350
Rosin	(CAS No) 8050-09-7	< 2*	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Sens. 1, H317
Styrene	(CAS No) 100-42-5	< 1*	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Carc. 1B, H350

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the product label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and seek medical attention. No attempt should be made to remove material from skin.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause an allergic skin reaction. May cause cancer by inhalation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Contain all water used for fire-fighting to the greatest extent possible.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including NIOSH approved positive-pressure breathing apparatus with full face mask and full protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing vapors. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place away from oxidizers, excessive heat, and open flame. Keep container closed when not in use.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³ Inhalable fraction

Hydrogen Sulfide (7783-06-4) may be released from this product		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA OSHA	OSHA PEL (ppm) (Vacated limits)	10 ppm
USA OSHA	OSHA STEL (ppm) (Vacated limits)	15 ppm
USA OSHA	OSHA Ceiling (ppm)	20 ppm

Styrene (100-42-5)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	40 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm

1,3-Butadiene (106-99-0)		
USA ACGIH	ACGIH TWA (ppm)	2 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1051)

8.2. Exposure controls

- Appropriate engineering controls : Ensure that proper ventilation is provided to maintain exposures below regulated limits.
- Personal protective equipment : Avoid all unnecessary exposure. At a minimum wear long sleeved cotton shirt buttoned at the collar and full length cotton pants. Synthetic fibers can melt and adhere to the skin when heated. Do not fold back or roll up cuffs.
- Hand protection : Wear protective gloves that protect against thermal burns when handling hot material.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Not typically required. In cases where exposures exceed occupational control limits, a NIOSH approved respirator is recommended.
- Other information : Do not eat, drink or smoke during use. Wash hands and other exposed areas after use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid

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Color	: Black
Odor	: Organic
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: ~ 343 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions of use, storage and transport.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Extreme heat and open flames.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hydrogen sulfide and other toxic vapors may be given off when heated excessively. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	: Inhalation; Skin and eye contact
Acute toxicity	: Not classified

Asphalt (8052-42-4)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Rosin (8050-09-7)

LD50 oral rat	7600 mg/kg
LD50 dermal rabbit	> 2500 mg/kg
LC50 inhalation rat (mg/l)	1.5 mg/l/4h

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Styrene (100-42-5)	
LD50 oral rat	1000 mg/kg
LC50 inhalation rat (mg/l)	11.7 mg/l/4h

1,3-Butadiene (106-99-0)	
LD50 oral rat	5480 mg/kg
LC50 inhalation rat (mg/l)	285 g/m ³ (Exposure time: 4 h)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer.

Asphalt (8052-42-4)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	5 - Twelfth Report - Items under consideration

Styrene (100-42-5)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

1,3-Butadiene (106-99-0)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Vapors and gases from heated asphalt may contain hydrogen sulfide and may cause eye, skin and respiratory tract irritation, headache and nausea. Ingestion or contact of hot material may cause burns on eyes, skin or gastrointestinal system. Asphalt may cause skin irritation with reddening, itching, burning and/or swelling and may cause allergic skin reaction in some individuals.
Symptoms/injuries after inhalation	: May cause an allergic skin reaction. May cause cancer by inhalation.

SECTION 12: Ecological information

12.1. Toxicity

Rosin (8050-09-7)	
EC50 Daphnia 1	3.8 - 5.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Styrene (100-42-5)	
LC50 fish 1	3.24 - 4.99 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	3.3 - 7.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	19.03 - 33.53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
NOEC (acute)	44 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])

12.2. Persistence and degradability

Seaboard Modified Emulsion Coating EF-400	
Persistence and degradability	Not established.

Asphalt (8052-42-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Seaboard Modified Emulsion Coating EF-400	
Bioaccumulative potential	Not established.

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Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6
Bioaccumulative potential	Not established.

Styrene (100-42-5)	
BCF fish 1	13.5
Log Pow	2.95

1,3-Butadiene (106-99-0)	
BCF fish 1	13 - 19.1
Log Pow	1.85 (at 23 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local, state, and federal regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Seaboard Modified Emulsion Coating EF-400	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Rosin (8050-09-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Styrene (100-42-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

1,3-Butadiene (106-99-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	Reportable Chemical (De minimis 0.1 %)

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15.2. International regulations

CANADA

Asphalt (8052-42-4)

Listed on the Canadian DSL (Domestic Substances List)

Rosin (8050-09-7)

Listed on the Canadian DSL (Domestic Substances List)

Styrene (100-42-5)

Listed on the Canadian DSL (Domestic Substances List)

1,3-Butadiene (106-99-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Asphalt (8052-42-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Rosin (8050-09-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Styrene (100-42-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

1,3-Butadiene (106-99-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

15.2.2. National regulations

Asphalt (8052-42-4)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Rosin (8050-09-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Styrene (100-42-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

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1,3-Butadiene (106-99-0)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

California - Proposition 65

WARNING: This product contains chemicals known to the State of California to cause cancer.

SECTION 16: Other information

Other information : None.

Full text of H-phrases:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. Not classified	Flammable liquids Not classified
Skin Sens. 1	Skin sensitization Category 1
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H350	May cause cancer
H351	Suspected of causing cancer

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product