



Seaboard Modified Emulsion Coating EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 17/04/2015

Revision date: N/A

Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Trade name : Seaboard Modified Emulsion Coating EF-400
Product code : EF-400
Type of product : Preparation
Product group : Trade product

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial.
For professional use only.
Use of the substance/mixture : Asphalt Emulsion Coating

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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

Prepared by : Cornerstone Environmental Health and Safety, Inc.
Phone: 1-317-733-2637

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300 (US & Canada)
CHEMTREC 1-352-323-3500 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Irrit. 2 H315
Eye Irrit. 2 H319
Skin Sens. 1 H317
Muta. 1B H340
Carc. 1A H350

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

Carc.Cat.1; R45
Muta.Cat.1; R46
Xi; R36/38
R43

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07



GHS08

Signal word (CLP) : Danger
Hazardous ingredients : Rosin, 1,3-Butadiene
Hazard statements (CLP) : H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Precautionary statements (CLP)	H319 - Causes serious eye irritation H340 - May cause genetic defects H350 - May cause cancer
	: P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P261 - Avoid breathing vapours P264 - Wash hands and other exposed areas thoroughly after handling 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 water P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313 - If exposed or concerned: 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.
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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable – product is a mixture

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
1,3-Butadiene	(CAS No) 106-99-0 (EC no) 203-450-8 (EC index no) 601-013-00-X	< 2	F+; R12 Carc.Cat.1; R45 Muta.Cat.1; R46
Rosin	(CAS No) 8050-09-7 (EC no) 232-475-7 (EC index no) 650-015-00-7	< 2	R43
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	< 1	Xn; R22 C; R35
Name	Product identifier	Specific concentration limits	
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	(0.5 =< C < 2) Xi; R36/38 (2 =< C < 5) C; R34 (5 =< C) C; R35	
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,3-Butadiene	(CAS No) 106-99-0 (EC no) 203-450-8 (EC index no) 601-013-00-X	< 2	Flam. Gas 1, H220 Muta. 1B, H340 Carc. 1A, H350
Rosin	(CAS No) 8050-09-7 (EC no) 232-475-7 (EC index no) 650-015-00-7	< 2	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Sens. 1, H317
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	< 1	Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314
Name	Product identifier	Specific concentration limits	
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	(0.5 =< C < 2) Skin Irrit. 2, H315 (0.5 =< C < 2) Eye Irrit. 2, H319 (2 =< C < 5) Skin Corr. 1B, H314 (5 =< C) Skin Corr. 1A, H314	

Full text of R- and H-phrases: see section 16

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	: Assure fresh air breathing. 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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

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 : May cause genetic defects.
Symptoms/injuries after inhalation : May cause an allergic skin reaction. May cause cancer by inhalation.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.

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 respiratory protection.

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.

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 vapour. Avoid breathing vapours. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.
Hygiene measures : Wash hands and other exposed areas thoroughly after handling. 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 oxidisers, 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

Potassium hydroxide (1310-58-3)		
Austria	MAK (mg/m ³)	2 mg/m ³ (inhalable fraction)
Bulgaria	OEL TWA (mg/m ³)	2.0 mg/m ³

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Potassium hydroxide (1310-58-3)		
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	2 mg/m ³
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³
Estonia	OEL TWA (mg/m ³)	2 mg/m ³
Finland	HTP-arvo (15 min)	2 mg/m ³
Finland	OEL Ceiling (mg/m ³)	2 mg/m ³
France	VLE (mg/m ³)	2 mg/m ³
Greece	OEL TWA (mg/m ³)	2 mg/m ³
Greece	OEL STEL (mg/m ³)	2 mg/m ³
Hungary	AK-érték	2 mg/m ³
Hungary	CK-érték	2 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	2 mg/m ³
Poland	NDS (mg/m ³)	0.5 mg/m ³
Poland	NDSch (mg/m ³)	1 mg/m ³
Portugal	OEL - Ceilings (mg/m ³)	2 mg/m ³
Spain	VLA-EC (mg/m ³)	2 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (inhalable dust)
Sweden	takgränsvärde (TGV) (mg/m ³)	2 mg/m ³ (inhalable dust)
United Kingdom	WEL STEL (mg/m ³)	2 mg/m ³
Norway	Gjennomsnittsverdier (Takverdi) (mg/m ³)	2 mg/m ³
Switzerland	VME (mg/m ³)	2 mg/m ³ (inhalable)
Canada (Quebec)	PLAFOND (mg/m ³)	2 mg/m ³
USA - ACGIH	ACGIH Ceiling (mg/m ³)	2 mg/m ³
USA - NIOSH	NIOSH REL (ceiling) (mg/m ³)	2 mg/m ³

Rosin (8050-09-7)		
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	0.05 mg/m ³ (smoke)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	0.15 mg/m ³ (fume)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³
France	VME (mg/m ³)	0.1 mg/m ³
Latvia	OEL TWA (mg/m ³)	4 mg/m ³
Canada (Quebec)	VEMP (mg/m ³)	0.1 mg/m ³

1,3-Butadiene (106-99-0)		
Austria	TEL TRK (mg/m ³)	34 mg/m ³ (reconditioning after polymerization, loading) 11 mg/m ³ (all others)
Austria	TEL TRK (ppm)	15 ppm (reconditioning after polymerization, loading) 5 ppm (all others)
Belgium	Limit value (mg/m ³)	4.5 mg/m ³
Belgium	Limit value (ppm)	2 ppm
Bulgaria	OEL TWA (mg/m ³)	50 mg/m ³
Bulgaria	OEL STEL (mg/m ³)	100 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	22 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	10 ppm
Czech Republic	Expoziční limity (PEL) (mg/m ³)	10 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	22 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Estonia	OEL TWA (mg/m ³)	1 mg/m ³
Estonia	OEL TWA (ppm)	0.5 ppm
Estonia	OEL STEL (mg/m ³)	10 mg/m ³
Estonia	OEL STEL (ppm)	5 ppm
Finland	HTP-arvo (8h) (mg/m ³)	2.2 mg/m ³

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

1,3-Butadiene (106-99-0)		
Finland	HTP-arvo (8h) (ppm)	1 ppm
Greece	OEL TWA (mg/m ³)	22 mg/m ³
Greece	OEL TWA (ppm)	10 ppm
Hungary	MK-érték	1 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	2.2 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	1 ppm
Ireland	OEL (15 min ref) (mg/m ³)	6.6 mg/m ³ (calculated)
Ireland	OEL (15 min ref) (ppm)	3 ppm (calculated)
Latvia	OEL TWA (mg/m ³)	100 mg/m ³
Lithuania	IPRV (mg/m ³)	1 mg/m ³
Lithuania	IPRV (ppm)	0.5 ppm
Lithuania	TPRV (mg/m ³)	10 mg/m ³
Lithuania	TPRV (ppm)	5 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	46.2 mg/m ³
Poland	NDS (mg/m ³)	4.4 mg/m ³
Portugal	OEL TWA (ppm)	2 ppm
Romania	OEL TWA (mg/m ³)	22 mg/m ³
Romania	OEL TWA (ppm)	10 ppm
Slovenia	OEL TWA (mg/m ³)	34 mg/m ³ 11 mg/m ³ (other)
Slovenia	OEL TWA (ppm)	15 ppm 5 ppm (other)
Slovenia	OEL STEL (mg/m ³)	136 mg/m ³ (polymerization processing, loading) 44 mg/m ³ (other)
Slovenia	OEL STEL (ppm)	60 ppm (polymerization processing, loading) 20 ppm (other)
Spain	VLA-ED (mg/m ³)	4.5 mg/m ³ (manufacturing, commercialization, and use restrictions under REACH)
Spain	VLA-ED (ppm)	2 ppm (manufacturing, commercialization, and use restrictions under REACH)
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	0.5 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	10 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	5 ppm
United Kingdom	WEL TWA (mg/m ³)	22 mg/m ³
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m ³)	66 mg/m ³ (calculated)
United Kingdom	WEL STEL (ppm)	30 ppm (calculated)
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	2.2 mg/m ³
Norway	Gjennomsnittsverdier (AN) (ppm)	1 ppm
Norway	Gjennomsnittsverdier (Kortidsverdi) (mg/m ³)	4.4 mg/m ³
Norway	Gjennomsnittsverdier (Kortidsverdi) (ppm)	3 ppm
Switzerland	VME (mg/m ³)	11 mg/m ³
Switzerland	VME (ppm)	5 ppm
Australia	TWA (mg/m ³)	22 mg/m ³
Australia	TWA (ppm)	10 ppm
Canada (Quebec)	VEMP (mg/m ³)	4.4 mg/m ³
Canada (Quebec)	VEMP (ppm)	2 ppm
USA - ACGIH	ACGIH TWA (ppm)	2 ppm
USA - IDLH	US IDLH (ppm)	2000 ppm (10% LEL)
USA - OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA - OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1051)

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

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.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Not typically required. In cases where exposures exceed occupational control limits, a respirator is recommended of class P1 at minimum.
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
Colour	: Black
Odour	: Organic
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=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)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising 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

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

Seaboard Modified Emulsion Coating EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : No additional information available

Potassium hydroxide (1310-58-3)	
LD50 oral rat	284 mg/kg
ATE CLP (oral)	284.000 mg/kg bodyweight

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
ATE CLP (oral)	7600.000 mg/kg bodyweight
ATE CLP (vapours)	1.500 mg/l/4h
ATE CLP (dust,mist)	1.500 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)
ATE CLP (oral)	5480.000 mg/kg bodyweight
ATE CLP (vapours)	285.000 mg/l/4h
ATE CLP (dust,mist)	285.000 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity : May cause cancer.
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 : No additional information available

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)

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

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

Potassium hydroxide (1310-58-3)	
Log Pow	0.65

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. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : Avoid release to the environment

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

No additional information available

14.2. UN proper shipping name

No additional information available

14.3. Transport hazard class(es)

No additional information available

14.4. Packing group

No additional information available

14.5. Environmental hazards

Dangerous for the environment : No additional information available
Marine pollutant : No additional information available
Other information : No additional information available

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

14.6.4. Inland waterway transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No additional information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Contains no substance on the REACH candidate list

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Muta. 1B	Germ cell mutagenicity, Category 1B

Seaboard Modified Emulsion Coating

EF-400

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
H220	Extremely flammable gas
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H340	May cause genetic defects
H350	May cause cancer
R12	Extremely flammable
R22	Harmful if swallowed
R35	Causes severe burns
R36/38	Irritating to eyes and skin
R43	May cause sensitisation by skin contact
R45	May cause cancer
R46	May cause heritable genetic damage
C	Corrosive
F+	Extremely flammable
Xi	Irritant
Xn	Harmful

SDS EU (REACH Annex II)

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