



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

EW INDUSTRIES

Box 336, Imperial, SK Canada S0G 2J0 1-888-799-3960
www.SierraStone.com

1. Identification

Product identifier used on the label

ENDURAFLAKE BASE COAT HARDENER

Recommended use of the chemical and restriction on use

Floor Coating

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

EW Industries
Box 336
Imperial, SK Canada
S0G 2J0

1-888-799-3960

Emergency telephone number

CHEMTREC: 1-800-424-9300



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Other means of identification

Chemical family: mixed amine
Synonyms: mixed amine

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

FLAMMABLE LIQUIDS	- Category 4
SKIN CORROSION/IRRITATION	- Category 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION	- Category 1
SKIN SENSITIZATION	- Category 1
TOXIC TO REPRODUCTION (Unborn child)	- Category 1B
TOXIC TO REPRODUCTION (Fertility)	- Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)	- Category 2
AQUATIC HAZARD (ACUTE)	- Category 2
AQUATIC HAZARD (LONG-TERM)	- Category 1

Label Elements

Pictogram:



Signal Word: Danger

Hazard Statement:

Combustible liquid.

Causes severe skin burns and eye damage. May cause an allergic skin reaction.

May damage the unborn child. Suspected of damaging fertility.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

Avoid breathing dust/fumes/gas/mist/vapors/spray.

Wash hands thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements (Response):

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do.

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Precautionary Statements (Disposal):

Disposal of contents/container to be specified in accordance with regulations.

3. Composition / Information on Ingredients

Ingredient name	%	CAS number
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	25 - 70	186321-96-0
Benzyl Alcohol	10 - 35	100-51-6
Isophorone diamine	5 - 15	2855-13-2
metaxylenediamine	5 - 10	1477-55-0
Bisphenol A	5 - 10	80-05-7
3-aminopropyldimethylamine	1 - 5	109-55-7
2,4,6-tris(dimethylaminomethyl)phenol	1 - 5	90-72-2
Salicylic acid	1 - 5	69-72-7



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Proprietary	< 15	Trade Secret
-------------	------	--------------

4. First-Aid Measures

Description of first aid measures

General advice:

Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

If inhaled:

If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

If on skin:

Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.

Most important symptoms and effects, both acute and delayed:

Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Neurological Disorders. Asthma. Skin Disorders and Allergies. Eye Disease.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Note to physician

Treatment: Application of corticosteroid cream has been effective in treating skin irritation.

5. Fire-Fighting Measures

Flash Point

Closed cup: 85.5°C (185.9°F) [DIN 51758 EN 22719 (Pensky-Martens Closed Cup)]

Extinguishing media

Use dry chemical, CO₂, water spray (fog) or foam

Unsuitable Extinguishing Media

Do not use water jet

Special hazards arising from the substance or mixture

Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special Protective Equipment for Fire-Fighters

Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Impact Sensitivity:

Remarks: No data available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13).

Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and Storage

Handling

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container, or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep container tightly closed and in a well-ventilated place. Keep away from sources of ignition - No smoking. Keep container tightly closed.

Storage stability: Do not store in reactive metal containers. Keep container dry because product takes up the humidity of air.

8. Exposure Controls/Personal Protection

Engineering Measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator when ventilation is inadequate. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Butyl-rubber, nitrile rubber, neoprene, PVC disposable, or otherwise impervious gloves should be worn. Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection:

Wear face shield or tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit, long-sleeve shirts, trousers without cuffs.

General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke. Remove contaminated clothing. Discard contaminated leather articles.

Exposure limit(s)

Metaxylenediamine	ACGIH TLV (United States, 4/2014). Absorbed through skin.	0.1 mg/m
-------------------	---	----------

9. Physical and Chemical Properties

Form: Liquid
Odor: Ammoniacal



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Color:	Amber, Brown
pH value:	Alkaline, 11
Melting point:	No data available
Boiling point:	> 135 °C
Flash point:	> 85 °C (DIN 51758 EN 22719 (Pensky-Martens Closed Cup))
Flammability:	Not flammable
Lower explosion limit:	Not applicable
Upper explosion limit:	Not applicable
Autoignition:	No data available
Vapor pressure:	Not available
Density:	1.03 g/cm ³) at 68 °F (20 °C)
Viscosity, Dynamic	500-1400 CPS
Solubility in Water	Partially soluble
Evaporation rate:	< Ether

10. Stability and Reactivity

Chemical Stability:

Stable under normal conditions.

Conditions to avoid:

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid:

Reactive or incompatible with oxidizing materials.

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of Hazardous Reactions/Reactivity:

No data available.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

11. Toxicological information

Acute Toxicity:

Product/ingredient name	Test	Endpoint	Species	Result
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat - Male, Female	>2000 mg/kg
	OECD 423 Acute Oral toxicity - Acute Toxic Class Method	LD50 Oral	Rat - Female	>2000 mg/kg
Benzyl Alcohol	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	>4178 mg/m ³
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	1620 mg/kg
Isophorone diamine	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	1030 mg/kg
metaxylenediamine	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	1.34 mg/l
	No official guidelines Internal method	LD50 Dermal	Rat - Male, Female	>3100 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	930 mg/kg
Bisphenol A	Unknown guidelines	LC50 Inhalation Dusts and mists	Rat - Male, Female	>170 mg/m ³
	Unknown guidelines	LD50 Dermal	Rabbit - Male	6400 mg/kg
3-aminopropyldimethylamine	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	2000 to 5000 mg/kg
	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Vapor	Rat - Male, Female	24.8 mg/l



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

2,4,6-tris (dimethylaminomethyl) phenol	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat	>1000 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	410 mg/kg
	Unknown guidelines	LD50 Dermal	Rat - Male	>971 mg/kg
Salicylic acid	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	2169 mg/kg
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat - Male, Female	>2000 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat	891 mg/kg

Irritation/Corrosion:

Product/ingredient name	Test	Species	Result
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	OECD OECD 439- In Vitro Skin Irritation - Reconstructed Human Epidermis Test Method	Human skin model	Skin - Irritant
	OECD Bovine Corneal Opacity and Permeability Test Method for Identifying Ocular Corrosives and Severe Irritants	Mammal - species unspecified	Eyes - Severe irritant
	OECD 404 Acute Dermal	Rabbit	Skin - Non-irritant.
Benzyl Alcohol			
Isophorone diamine	Irritation/Corrosion OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Irritant
	- OECD 405 Acute Eye Irritation/Corrosion	Rabbit Rabbit	Skin - Corrosive Eyes - Corrosive
metaxylenediamine	EU	Rat	Skin - Corrosive



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Bisphenol A	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Non-irritant.
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Severe irritant
3-aminopropyldimethylamine	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Corrosive
2,4,6-tris(dimethylaminomethyl) phenol	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Corrosive
	EPA CFR	Rabbit	Eyes - Corrosive
Salicylic acid	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Non-irritant.
	-	Rabbit	Eyes - Severe irritant

Information on toxicological effects

Likely routes of exposure

Effects on Eye:

Severe eye irritation.

Effects on Skin :

If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.

Inhalation Effects:

May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Ingestion Effects:

Harmful if swallowed. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Symptoms:

Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause Sore throat. Neurological disorders, Asthma, Skin disorders and Allergies, Eye Disease.

Acute toxicity

Acute Oral Toxicity:	LD50 : 1,000 mg/kg Species : Rat.
Inhalation:	No data is available on the product itself. Inhalation - Components Benzyl alcohol: LC50 (4 h): > 4.178 mg/l OECD Test Guideline 403 Species: Rat.
Acute Dermal Toxicity:	LD50 : > 2,800 mg/kg Species : Rabbit.
Skin corrosion/irritation:	Severe skin irritation. Corrosive to the skin of a rabbit.
Serious Eye Damage/Eye Irritation:	Severe eye irritation.
Sensitization:	May cause sensitization by skin contact.

Chronic Toxicity or Effects from Long Term Exposures

Carcinogenicity:	No data available.
Reproductive Toxicity:	No data is available on the product itself.
Germ Cell Mutagenicity:	No data is available on the product itself.
Specific Target Organ Systemic Toxicity (single exposure):	No data is available.
Specific Target Organ Systemic Toxicity (repeated exposure):	No data is available.

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1percent



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes Sensitization, Asthma and Eczemas, Neurological disorders, Asthma, Skin Disorders and Allergies, Eye Disease.

Rats exposed orally to 800 mg/kg benzyl alcohol for thirteen weeks exhibited CNS depression and histopathological changes in the brain, thymus and skeletal muscles. The No Observed Adverse Effect Level (NOAEL) was 400 mg/kg. No evidence of carcinogenicity was seen in a two-year study with rats and mice.

12. Ecological Information

EcoToxicity Effects

Aquatic toxicity: No data available on the product itself

Toxicity to fish:

Benzyl alcohol	LC50 (96 h) : 10 mg/l	Species : Bluegill sunfish (Lepomis macrochirus).
Benzyl alcohol	LC50 (96 h) : 460 mg/l	Species : Fathead minnow (Pimephales promelas).

Toxicity to algae:

Benzyl alcohol	IC50 (72 h) : 700 mg/l	Species : Algae.
----------------	------------------------	------------------

Toxicity to other organisms: No data available.

Persistence and degradability

Biodegradability: No data is available on the product itself.

Mobility: No data available.

Bioaccumulation: No data is available on the product itself.

Bioaccumulation:

Benzyl alcohol: Low bioaccumulation potential.

13. Disposal Considerations



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Dispose of in a licensed facility. Do not discharge into waterways or sewer systems without proper authorization. Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Hazard class:	8
Packing group:	II
ID number:	UN 2735
Hazard label:	8
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, M-xyllylene diamine)

Sea transport

IMDG

Hazard class:	8
Packing group:	II
ID number:	UN 2735
Hazard label:	8
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, M-xyllylene diamine)
Marine Pollutant:	YES

Air transport

IATA/ICAO

Hazard class:	8
Packing group:	II
ID number:	UN 2735
Hazard label:	8



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

Proper shippingname: Amines, liquid, corrosive, n.o.s. (Isophorone diamine, M-xyllylene diamine)
Marine pollutant: YES

15. Regulatory Information

Toxic Substance Control Act (TSCA) 12(b) Component(s):

None.

COUNTRY	REGULATORY LIST	NOTIFICATION
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification:
Acute Health Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level:
None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.



ENDURAFLAKE BASE COAT HARDENER

Safety Data Sheet

Revision date: 2015/10/21

16. Other Information

HMIS Rating

Health	: 3
Flammability	: 2
Physical hazard	: 0

SDS Prepared by:

EW Industries Ltd

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of EW Industries Ltd. Product Safety Program. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information obtained herein. Data sheets are available for all EW Industries products. You are urged to obtain data sheets for all EW Industries products you buy, process, use or distribute and you are encouraged and requested to advise those who may come in contact with such products of the information contained therein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. EW Industries does not undertake to furnish advice on such matters.