



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

1. Identification

Product identifier used on the label

EnduraFlake HB4 HARDENER

Recommended use of the chemical and restriction on use

Floor Coating. Industrial Maintenance 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:

E. W. Industries

P.O. Box 336

Imperial, SK Canada S0G 2J0

Phone: 1-888-799-3960

Emergency telephone number

CHEMTREC: 1-800-424-9300

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

Acute Toxicity - Oral	Category 4
Acute Toxicity - Inhalation	Category 4
Skin Corrosion	Category 1B
Serious Eye Damage	Category 1



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

Skin Sensitization -

Category 1

Label Elements

Pictogram:



Signal

Word: Danger

Hazard Statement:

Harmful if swallowed or inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure if swallowed

Precautionary Statements (Prevention):

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area

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

Precautionary Statements (Response):

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately allcontaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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.

Hazards not otherwise classified

Corrosive

Harmful if swallowed.

Components of the product may affect the nervous system.



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

Severe respiratory irritant.
Severe skin irritant.
Severe eye irritant.
May cause sensitization by skin contact.
Toxic by inhalation

3. Composition / Information on Ingredients

Components	CAS Number	Concentration (Weight)
Paratertiarybutylphenol	98-54-4	< 30 %
Benzene-1,3-dimethanamine (MXDA)	1477-55-0	< 20 %
Methyleneoxide, polymer with benzenamine,hydrogenated	135108-88-2	> 20 %
Benzyl alcohol	100-51-6	< 15 %
Trimethylhexamethylenediamine (TMD)	25620-58-0	> 10%
Nonyl Phenol	84852-15-3	< 5 %
Tetraethylenepentamine	112-57-2	< 10 %
Proprietary Ingredients	Proprietary	< 15%

CHEMICAL FAMILY: Amidoamine blend with Aliphatic and Cycloaliphatic Amines.

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.



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

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.

Note to physician

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

5. Fire-Fighting Measures

Extinguishing media

Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical. Dry sand. Limestone powder.

Special hazards arising from the substance or mixture

May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire-fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.

Advice for fire-fighters

Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

Further information:

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

Impact Sensitivity:

Remarks: No data available.



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

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

Construct a dike to prevent spreading

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Handling

Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Use personal protective equipment. When using, do not eat, drink or smoke.

Protection against fire and explosion:

Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

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



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits

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-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)

Benzyl alcohol	Time Weighted Average (TWA): WEEL	10 ppm	44.20 mg/m ³
Tetraethylenepentamine	Time Weighted Average (TWA): WEEL	1 ppm	5 mg/m ³
Benzene-1,3-dimethanamine (MXDA)	Ceiling Limit Value: ACGIH	-	0.1 mg/m ³
Benzene-1,3-dimethanamine (MXDA)	Ceiling Limit Value and Time Period (ifspecified): NIOSH	-	0.1 mg/m ³
Benzene-1,3-dimethanamine (MXDA)	Ceiling Limit Value: OSHA Z1A	-	0.1 mg/m ³
Benzene-1,3-dimethanamine (MXDA)	Ceiling Limit Value: US CA OEL	-	0.1 mg/m ³
Benzene-1,3-dimethanamine (MXDA)	Ceiling Limit Value: TN OEL	-	0.1 mg/m ³



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

9. Physical and Chemical Properties

Form:	liquid
Odor:	Fishy
Color:	Amber
pH value:	Alkaline, 10-11
Melting point:	No data available
Boiling point:	> 200 °C
Flash point:	> 90 °C (ASTM D93)
Flammability:	Not flammable
Lower explosion limit:	Not applicable
Upper explosion limit:	Not applicable
Autoignition:	No data available
Vapor pressure:	< 1.00 mmHg at 70 °F (21 °C)
Density:	0.990 g/cm ³ at 70 °F (21 °C)
Viscosity, Dynamic	1500-2000 CPS
Solubility in Water	Not very soluble < 1%
Evaporation rate:	< Ether

10. Stability and Reactivity

Chemical Stability:
Stable under normal conditions.

Conditions to avoid:
No data available.

Materials to avoid:
Sodium hypochlorite. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

Hazardous decomposition products:

Aldehydes. Flammable hydrocarbon fragments. Nitrosamine. Nitrogen oxides (NO_x). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Ammonia. Nitric acid. Carbon monoxide. Carbon dioxide (CO₂)

Possibility of hazardous Reactions/Reactivity:

No data available.

11. Toxicological information

Information on toxicological effects

Likely routes of exposure

Effects on Eye:

Causes eye burns. May cause blindness. Severe eye irritation.

Effects on Skin:

Causes skin burns. 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. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. 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.

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 : 1300 mg/kg Species : Rat.. Estimated



Safety Data Sheet
ENDURAFLAKE HB4 Epoxy Primer
CLEAR - HARDENER

Revision date: 2015/08/10

Inhalation: LC50 (1 h): > 20 mg/l Species: Rat.: Estimated

Acute Dermal Toxicity: LD50 : > 2,000 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 0.1 percent 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, Eyedisease.

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).



Safety Data Sheet ENDURAFLAKE HB4 Epoxy Primer CLEAR - HARDENER

Revision date: 2015/08/10

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:
Methyleneoxide, polymer with bezenamine, hydrogenated: Does not bioaccumulate
Benzyl alcohol: Low bioaccumulation potential.

13. Disposal Considerations

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: III

ID number: UN 2735

Hazard label: 8

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S., (Polyamidoamine, Mixed Cycloaliphatic amines)

Marine Pollutant: No

Sea transport

IMDG

Hazard class: 8



Safety Data Sheet
ENDURAFLAKE HB4 Epoxy Primer
CLEAR - HARDENER

Revision date: 2015/08/10

Packing group: III
 ID number: UN 2735
 Hazard label: 8
 Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S., (Polyamidoamine, Mixed Cycloaliphatic amines)
 Marine Pollutant: Yes**

** NOTE: This product contains a substance that: 1) is regulated as a Marine Pollutant, or 2) meets the definition of toxic to the aquatic environment.

Air transport
 IATA/ICAO

Hazard class: 8
 Packing group: III
 ID number: UN 2735
 Hazard label: 8
 Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S., (Polyamidoamine, Mixed Cycloaliphatic amines)
 Marine Pollutant: Yes**

** NOTE: This product contains a substance that: 1) is regulated as a Marine Pollutant, or 2) meets the definition of toxic to the aquatic environment.

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.



Safety Data Sheet
ENDURAFLAKE HB4 Epoxy Primer
CLEAR - HARDENER

Revision date: 2015/08/10

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 otherharm.

16. Other Information

HMIS Rating

Health : 3
 Flammability : 1
 Physical hazard : 0

SDS Prepared by:

E. W. Industries

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 E. W. Industries Enterprises 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 E. W. Industries products. You are urged to obtain data sheets for all E. W. 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. E. W. Industries does not undertake to furnish advice on such matters.