

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

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

1.1 Product identifier

Trade name: Armor-Hard Extreme

Article number: Armor-Hard Extreme Part A

1.2 Application of the substance / the mixture: Epoxy binder

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer/Supplier:

Metzger/McGuire Co.

P. O. Box 2217

Concord, NH 03302

Telephone: (800) 223-6680

1.4 Emergency telephone number:

(800) 255-3924 24 hrs. (Continental U.S.)

(813) 248-0585 24 hrs. (Outside Continental U.S.)

2 Hazards identification

2.1 GHS Classification of the substance or mixture

Oral: Acute toxicity, Category 4, H302: Harmful if swallowed.

Dermal: Acute toxicity, Category 3, H311: Toxic in contact with skin.

Skin corrosion, Category 1B, H314: Causes severe skin burns and eye damage.

Serious eye damage, Category 1, H318

Skin sensitization, Category 1, H317: May cause an allergic skin reaction.

2.2 GHS Label elements

Hazard pictograms/symbols



Signal word: Danger

Hazard statements:

H302 : Harmful if swallowed.

H311 : Toxic in contact with skin.

H314 : Causes severe skin burns and eye damage.

H317 : May cause an allergic skin reaction..

Precautionary statements:

P261 : Avoid breathing gas/mist/vapours/spray.

P264 : Wash skin thoroughly after handling.

P270 : Do not eat, drink or smoke when using this product.

P272 : Contaminated work clothing should not be allowed out of the workplace.

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

P273: Avoid release to the environment.
P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 : IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301 + P330 + P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 : Immediately call a POISON CENTER or doctor/ physician.
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P363 : Wash contaminated clothing before reuse.

Additional information:

Contains epoxy constituents. May produce an allergic reaction.

HMIS Rating:

Health: 3
Flammability: 1
Physical Hazard: 0

3 Composition/information on ingredients

3.2 Mixture

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 25068-38-6	Reaction product: bisphenol - A- (epichlorhydrin) epoxy resin (number average molecular weight \leq 700)	70-90%
CAS: 1070-70-8	2-Propenoic acid, 1,4-butanediyl ester	5-15%
CAS: 15625-89-5	2-Propenoic acid, 2-ethyl-2-[[1-(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester	5-15%

4 First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

After inhalation: If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately

After skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

After eye contact:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately. Call a Poison Control Center.

After swallowing:

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. Rinse mouth.

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

Allergic reactions.

Nausea.

Coughing.

Gastric or intestinal disorders.

Irritant to skin and mucous membranes.

Irritant to eyes.

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

Contains reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700), Reaction May produce an allergic reaction.

If necessary oxygen respiration treatment.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Water haze or fog.

Foam.

Fire-extinguishing powder.

Carbon dioxide.

For safety reasons unsuitable extinguishing agents:

Water with full jet

Water spray

5.2 Special hazards arising from the substance or mixture:

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for the firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information:

Cool endangered receptacles with water fog or haze.

Eliminate all ignition sources if safe to do so.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Keep away from ignition sources.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

Prevent from spreading (e.g. by damming-in or oil barriers).

6.3 Methods and material for containment and cleaning up:

Absorb liquid components with liquid-binding material.

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

7 Handling and storage

7.1 Precautions for safe handling:

Use only in well-ventilated areas.

Store in cool, dry place in tightly closed receptacles (60-80°F recommended).

7.2 Conditions for safe storage, including any incompatibilities:

Use only receptacles specifically permitted for this substance/product.

Avoid storage near extreme heat, ignition sources or open flame.

Store separate from: Strong oxidizing agents, strong reducing agents, free radical generators and peroxides.

Further Information about storage conditions:

Keep container tightly sealed.

Store in an area with adequate ventilation.

8 Exposure controls/personal protection

8.1 Control parameters

Airborne Exposure Guidelines:

2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester (15625-89-5)

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Skin designation

Remarks: Can be absorbed through the skin.

Time Weighted Average :1 mg/m³

Remarks: Avoid skin or eye contact with liquids or aerosols.

8.2 Engineering controls

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

8.3 Personal protective equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Respiratory protection:

Not required under normal conditions of use.

Avoid breathing vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components.

Hand protection:

Protective, impervious gloves. (Neoprene, Butyl-rubber, Nitrile rubber)

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

The glove material has to be impermeable and resistant to the product / the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection:

Face shield with safety glasses or goggles underneath.

Contact lenses should not be worn.

Skin and Body protection:

Protective work clothing.

Where potential exposure warrants, rubber or plastic boots and chemically resistant protective suit.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance

Form: Liquid
Colour: Colorless

Odour: Sweet-Acrylic like

Odour threshold: No data available

pH: No data available

Melting point/range: No data available

Boiling point/range: No data available

Flash point: >201 °F / >94 °C

Evaporation rate: No data available

Flammability (solid, gaseous): Not applicable

Upper/lower flammability or explosive limit: Not applicable

Vapor pressure: No data available

Vapor density: No data available

Relative Density at 20°C: 1.15g/cm³

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): No data available

Auto/Self-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity 900 – 1,400 cps

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

10 Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions:

Reacts with strong alkali.

Exothermic polymerization.

Reacts with strong acids and oxidizing agents.

Reacts with catalysts.

10.4 Conditions to avoid:

This material polymerizes exothermically in the presence of heat, contamination, oxygen free atmosphere, free radicals, peroxides and inhibitor depletion liberating heat.

10.5 Incompatible materials:

Strong acids, bases and oxidizing agents.

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide. Acrylates. Hazardous organic compounds.

11 Toxicological information

11.1 Information on likely routes of exposure:

Inhalation: May cause respiratory irritation

Ingestion: No data available

Skin contact: May cause skin damage. May cause an allergic skin reaction.

Eye contact: May cause serious eye damage.

11.2 Symptoms related to physical, chemical and toxicological characteristics: No available data

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure:

(Data for primary component, Reaction product: bisphenol - A- (epichlorhydrin) epoxy resin)

Acute toxic:

Oral LD50 > 2,000 mg/kg (rat)

Dermal LD50 > 2,000 mg/kg (rat)

Inhalation No data

Skin Corrosive/irritant:

Test material was slightly irritating to skin in key studies. For the skin, mean erythema and edema scores were 0.8 and 0.5 respectively.

Serious eye damage/eye irritation:

Test material was slightly irritating to the eye in key studies. The mean eye score was 0.4

Respiratory sensitization: No data available

Skin sensitization:

In a local lymph node assay, the concentration that would cause a 3-fold increase in proliferation (EC-3) was calculated to be 5.7% which is consistent with moderate dermal sensitization potential.

(Data for secondary component, Trimethylolpropane triacrylate (15625-89-5))

Acute toxicity

Inhalation:

No deaths occurred. (Rat) 6 h LC0 > 0.55 mg/l. (vapor)

Skin Irritation:

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

Causes mild skin irritation. (Rabbit) Irritation Index: 2.2 - 3.8 / 8. (4 h)

Causes skin irritation. (Rabbit) (6 h) (Repeated skin exposure)

Eye Irritation:

Causes serious eye irritation. (Rabbit) Irritation Index: 44/110.

11.4 Numerical measures of toxicity: No data available for mixture.

Additional toxicological information:

The product show the following dangers according to the calculation method of the General EU

Classification Guidelines for Preparations as issued in the latest version: Irritant

Danger through skin absorption.

Toxic and /or corrosive effects may be delayed up to 24 hours.

Inhalation of concentrated vapours as well as oral intake will lead to anesthesia-like conditions and headache, dizziness ,etc.

12 Ecological information

12.1 Toxicity

Aquatic toxicity: No data for the complete mixture itself.

(Data for primary component, Reaction product: bisphenol - A- (epichlorhydrin) epoxy resin)

Fish	96hr-LC50 = 3.6mg/L test mat. <i>Oncorhynchus mykiss</i> (direct application, nominal) (OECD Guideline 203)
Crustacea	LC50 1.41 mg/L 96hr <i>Oryzias latipes</i> 48hr-EC50 = 2.8mg/L test mat <i>Daphnia magna</i> (direct application, nominal, based on: mobility) (OECD Guideline 202)
Aquatic Plant	EC50 1.7mg/L 48hr 72hr-EC50 > 11 mg/L <i>Scenedesmus capricornutum</i> water soluble fraction (meas. (arithm. mean)) based on: growth rate (EPA-660/3-75-009)

12.2 Persistence and degradability: No data available.

12.3 Bioaccumulative Las Vegas (and vicinity), Nevada, United States of America potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available

13 Disposal considerations

13.1 Waste treatment methods

Waste from residue/unused product:

This product should not be allowed to enter drains, water courses or the soil. Dispose of this material in a safe manner and in accordance with federal, state and local regulations

Contaminated packaging:

Disposal must be made in accordance with official federal, state and local regulations.

14 Transport information

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

DOT

UN Number : UN3265
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s. (1,4-Butanediol diacrylate)
Hazard Class: 8
Packaging group : II
Labels(s): 8
Marine pollutant : No

IATA

UN Number : UN3265
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s. (1,4-Butanediol diacrylate)
Hazard Class: 8
Packaging group : II
Labels(s): 8
Marine Pollutant: Yes (epoxy resin)

IMDG

UN Number : UN3265
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s. (1,4-Butanediol diacrylate)
Hazard Class: 8
Packaging group : II
Labels(s): 8
Marine Pollutant: Yes (epoxy resin)

15 Regulatory Information

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

United States (USA)

SARA

Section 355 (extremely hazardous substances):
None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):
Component(s) above 'de minimus' level: None
TSCA (Toxic Substances Control Act):
All the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause birth defects or other reproductive harm: Benzene, methyl- (108-88-3)

Pennsylvania Right to Know

2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester (CAS No. 15625-89-5)

Canada

Canadian Domestic Substances List (DSL):

Safety Data Sheet

Revision Date 04.29.2015

Revision: 1

All ingredients are listed.
Canadian Ingredient Disclosure list (limit 0.1%)
None of the ingredients is listed.
Canadian Ingredient Disclosure list (limit 1%)
None of the ingredients is listed.

15.2 Chemical Safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviation and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienist.

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substance

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)