

Safety Data Sheet
according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**· Trade name: **Armor-Hard Part B**

· Other means of identification: No other identifiers

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

· Application of the substance / the mixture: Epoxy binder

· Uses advised against: No further relevant information available.

1.3 Details of the supplier of the Safety Data Sheet**Manufacturer/Supplier:**

METZGER/McGUIRE

Mailing Address:

PO Box 2217

Concord, NH 03302

Shipping Address:

807 Route 3-A

Bow, NH 03304

Phone: 603-224-6122

Toll Free: 800-223-6680

Email: info@metzgermcguire.com

Importer / Distributor:

DR. Schulze GmbH

Bollenberg 10

D-57234 Wilnsdorf

+49 (0) 2737/5953-0

1.4 Emergency telephone number:

ChemTel Inc.

(800)255-3924 (North America)

+1 (813)248-0585 (International)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 1B	H360F	May damage fertility.
STOT SE 3	H335	May cause respiratory irritation.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

(Cont'd. on page 2)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 1)



GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

2,2'-iminodiethylamine
 bisphenol A
 Triethylenetetramine
 benzyl alcohol
 2,4,6-tris(dimethylaminomethyl)phenol

· **Hazard statements**

H302+H312 Harmful if swallowed or in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H360F May damage fertility.
 H335 May cause respiratory irritation.
 H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P260 Do not breathe mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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/doctor.

· **Additional information:**

Restricted to professional users.

· **2.3 Other hazards** There are no other hazards not otherwise classified that have been identified.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Components:**

CAS: 111-40-0 EINECS: 203-865-4 Index number: 612-058-00-X Reg.nr.: 01-2119473793-27-XXXX	2,2'-iminodiethylamine ⚠ Skin Corr. 1B, H314 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	30-50%
CAS: 80-05-7 EINECS: 201-245-8 Index number: 604-030-00-0	bisphenol A ⚠ Repr. 1B, H360F ⚠ Eye Dam. 1, H318	20-28%

(Cont'd. on page 3)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 2)

Reg.nr.: 01-2119457856-23-XXXX	⚠ Aquatic Chronic 2, H411 ⚠ Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 112-24-3 EINECS: 203-950-6 Index number: 612-059-00-5	Triethylenetetramine ⚠ Skin Corr. 1B, H314 ⚠ Acute Tox. 4, H312; Skin Sens. 1, H317 Aquatic Chronic 3, H412	1-10%
CAS: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5 Reg.nr.: 01-2119492630-38-XXXX	benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	4-8%
CAS: 90-72-2 EINECS: 202-013-9 Index number: 603-069-00-0 Reg.nr.: 01-2119560597-27-XXXX	2,4,6-tris(dimethylaminomethyl)phenol ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Acute Tox. 4, H312; Skin Sens. 1B, H317 Aquatic Chronic 3, H412	1-3%

SVHC

80-05-7 bisphenol A

 · **Additional information:** For the wording of the listed Hazard Statements refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation:

Supply fresh air; consult doctor in case of complaints.
 Provide oxygen treatment if affected person has difficulty breathing.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

After skin contact:

Immediately remove any clothing soiled by the product.
 Immediately wash with water and soap and rinse thoroughly.
 If skin irritation or rash occurs: Get medical advice/attention.

After eye contact:

Remove contact lenses if worn, if possible.
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.
 Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

Asthma attacks
 Breathing difficulty
 Coughing
 Allergic reactions
 Irritating to eyes, respiratory system and skin.
 Gastric or intestinal disorders when ingested.
 Nausea in case of ingestion.

Hazards:

Danger of impaired breathing.
 Harmful if swallowed or in contact with skin.
 May damage fertility or the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

(Cont'd. on page 4)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 3)

Contains 2,2'-iminodiethylamine, bisphenol A, Triethylenetetramine. May produce an allergic reaction. Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible. Medical supervision for at least 48 hours. Later observation for pneumonia and pulmonary oedema. In cases of irritation to the lungs, initial treatment with cortical steroid inhalants. If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Foam, dry chemical or carbon dioxide.
- **For safety reasons unsuitable extinguishing agents:**
 - Water with full jet
 - Water spray
- **5.2 Special hazards arising from the substance or mixture**
 - During heating or in case of fire poisonous gases are produced.
 - Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information:**
 - Cool endangered receptacles with water fog or haze.
 - Evacuate area and fight fire from from the upwind side.

SECTION 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
- **6.2 Environmental precautions**
 - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 - Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Open and handle receptacle with care.

(Cont'd. on page 5)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 4)

- Avoid contact with the eyes and skin.
- Avoid breathing mist/vapours/spray.
- Avoid splashes or spray in enclosed areas.
- Use only outdoors or in a well-ventilated area.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
 - Avoid storage near extreme heat, ignition sources or open flame.
 - Protect from humidity and water.
- **Information about storage in one common storage facility:**
 - Store away from foodstuffs.
 - Do not store together with oxidising and acidic materials.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store locked up.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

111-40-0 2,2'-iminodiethylamine

WEL (Great Britain)	Long-term value: 4,3 mg/m ³ , 1 ppm
OEL (Ireland)	Long-term value: 4 mg/m ³ , 1 ppm
	Sk

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.
- **8.2 Exposure controls**
- **General protective and hygienic measures:**
 - The usual precautionary measures are to be adhered to when handling chemicals.
 - Keep away from foodstuffs, beverages and feed.
 - Wash hands before breaks and at the end of work.
 - Do not inhale gases / fumes / aerosols.
 - Avoid contact with the eyes and skin.
 - Pregnant women should strictly avoid inhalation or skin contact.
- **Respiratory protection:**
 - Use suitable respiratory protective device in case of insufficient ventilation.
 - Use respiratory protection when grinding or cutting material.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**

(Cont'd. on page 6)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 5)


Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**
No further relevant information available.
- **Risk management measures:** No further relevant information available.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Appearance

Form:	Liquid
Colour:	Amber coloured
· Odour:	Amine-like
· Odour threshold:	Not determined.

· pH-value:	Not determined.
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	>176 °C

· Flash point:	>100 °C
----------------	---------

· Flammability (solid, gas):	Not applicable.
------------------------------	-----------------

· Auto/Self-ignition temperature:	Not determined.
-----------------------------------	-----------------

· Decomposition temperature:	Not determined.
------------------------------	-----------------

· Explosive properties:	Product does not present an explosion hazard.
-------------------------	-----------------------------------------------

· Explosion limits

Lower:	Not determined.
Upper:	Not determined.

· Oxidising properties	Non-oxidising.
------------------------	----------------

· Vapour pressure:	Not determined.
--------------------	-----------------

· Density:

Relative density at 20 °C:	1,01 g/cm ³
Vapour density:	Not determined.
Evaporation rate:	Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient: n-octanol/water:	Not determined.
-------------------------------------------	-----------------

· Viscosity

Dynamic at 20 °C:	150-350 cps
Kinematic:	Not determined.

· 9.2 Other information

No further relevant information available.

(Cont'd. on page 7)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 6)

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Exothermic polymerisation.
Reacts with water and acids.
Reacts with alcohols, amines, aqueous acids and alkalis.
Reacts with catalysts.
Reacts with peroxides and other radical forming substances.
Toxic fumes may be released if heated above the decomposition point.
- **10.4 Conditions to avoid** Excessive heat.
- **10.5 Incompatible materials** Oxidisers, strong bases, strong acids
- **10.6 Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Ammonia

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
Harmful if swallowed or in contact with skin.

- **LD/LC50 values relevant for classification:**

111-40-0 2,2'-iminodiethylamine

Oral	LD50	1080 mg/kg (rat)
Dermal	LD50	1090 mg/kg (rabbit)

80-05-7 bisphenol A

Oral	LD50	3250 mg/kg (rat)
Dermal	LD50	3000 mg/kg (rabbit)

112-24-3 Triethylenetetramine

Oral	LD50	2500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

100-51-6 benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

90-72-2 2,4,6-tris(dimethylaminomethyl)phenol

Oral	LD50	2169 mg/kg (rat)
Dermal	LD50	>1000 mg/kg (rat)

- **Primary irritant effect**
- **Skin corrosion/irritation:**
Causes severe skin burns and eye damage.

(Cont'd. on page 8)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 7)

- **Serious eye damage/irritation:**
Causes serious eye damage.
- **Respiratory or skin sensitisation:**
May cause an allergic skin reaction.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

- **Probable routes of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:**
May damage fertility.
- **STOT-single exposure:**
May cause respiratory irritation.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**
Toxic to aquatic life with long lasting effects.

100-51-6 benzyl alcohol

LC50	460 mg/l (pimephales promelas)
------	--------------------------------

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Can be disposed of with household garbage after solidification following consultation with the waste

(Cont'd. on page 9)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 8)

disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.
 Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
 Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- **14.1 UN-Number**

- DOT, ADR, IMDG, IATA UN2735

- **14.2 UN proper shipping name**

- DOT, IATA Amines, liquid, corrosive, n.o.s. (Diethylenetriamine, Triethylenetetramine)
- ADR, IMDG AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE, TRIETHYLENETETRAMINE)

- **14.3 Transport hazard class(es)**

- DOT



- Class 8
- Label 8

- ADR



- Class 8 (C7)
- Label 8

- IMDG, IATA



- Class 8
- Label 8

- **14.4 Packing group**

- DOT, ADR, IMDG, IATA II

(Cont'd. on page 10)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 9)

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances: bisphenol A

· **Marine pollutant:**



Yes

· **14.6 Special precautions for user** Warning: Corrosive substances.

· **Danger code (Kemler):** 80

· **EMS Number:** F-A,S-B

· **Segregation groups** Alkalis

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT** Labeling as a Marine Pollutant is only required for bulk single package shipments. Bulk packaging consists of a maximum capacity of greater than 450 L (119 gallons) for a liquid and a maximum net mass greater than 400 kg (882 pounds) for a solid. (See 171.4(c))



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

· **ADR** Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 5.2.1.8.1)



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

· **Transport category** 2

· **Tunnel restriction code** E

· **IMDG** Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 2.10.2.7)



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

(Cont'd. on page 11)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 10)

· IATA



Limited Quantity for packages less than 30 kg gross and inner packagings less than 0,1 L each / 0,5 L net.

SECTION 15: Regulatory information

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

 · **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

 · **Directive 2012/18/EU**

 · **Named dangerous substances - ANNEX I** None of the ingredients are listed.

 · **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

 · **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

 · **Other regulations, limitations and prohibitive regulations**

 · **Substances of very high concern (SVHC) according to REACH, Article 57**

80-05-7	bisphenol A
---------	-------------

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

SECTION 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.

 · **Relevant phrases**

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H360F May damage fertility.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

 · **Abbreviations 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

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

(Cont'd. on page 12)

Safety Data Sheet

according to 1907/2006/EC

Printing date: 06 June 2018

Revision: 06 June 2018

Trade name: Armor-Hard Part B

(Cont'd. from page 11)

PBT: Persistent, Bio-accumulable, Toxic
vPvB: very Persistent and very Bioaccumulative
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com