

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing Date 03/23/2012

Revision Number 2

Reviewed on 03/23/2012

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

- **Product identifier**
- **Trade name:** 50110 (Hardman Epocure 110 Part B)
- **Article number:** 50110
- **Application of the substance / the preparation** Epoxy curing agent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Royal Adhesives And Sealants, LLC
2001 W. Washington Street
South Bend IN 46628-2023
- **Information department:** Environment protection department.
- **Emergency telephone number:** ChemTrec: UNITED STATES 1(800)424-9300 INTERNATIONAL 703-527-3887

2 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
Polyamido Amine
- **Chemical characterization: Mixtures**
- **Description: Mixture:** consisting of the following components.

· **Dangerous components:**

Polyamine Additive	☠ H314	50-100%
Aliphatic Amine	☠ H314; ☠ H411; ☠ H302; H312; H317	2.5-10%

- **Additional information:** For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

- **Classification of the substance or mixture**
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
.....
H303 May be harmful if swallowed.
H412 Harmful to aquatic life with long lasting effects.
.....
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Corrosive
Causes burns.
.....
Irritant
May cause sensitisation by skin contact.
.....
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
.....
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.
The product has been classified and marked in accordance with directives on hazardous materials.

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· **Code letter and hazard designation of product:**

Corrosive

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

Aliphatic Amine

· **Risk phrases:**

Causes burns.

May cause sensitisation by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

Keep locked up and out of the reach of children.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

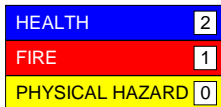


Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 1

Physical Hazard = 0

4 First aid measures

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Seek medical treatment.

5 Firefighting measures

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Protective equipment:** Mouth respiratory protective device.

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste in accordance with federal state and local regulations.
Ensure adequate ventilation.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Keep receptacles tightly sealed.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location away from direct heat.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment (see listings below)**
- **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.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.
- **Protection of hands:**
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Material of gloves**
Nitrile rubber, NBR
Chloroprene rubber, CR

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The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Safety glasses with side shields.



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Light yellow
Odor:	Characteristic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point:	Undetermined.
Boiling point:	Undetermined.

· **Flash point:** 100°C (212 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Flammable limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure:** Not determined.

· **Specific gravity at 20°C (68 °F):** 0.95 g/cm³ (7.928 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Segregation coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

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Kinematic: Not determined.

· **Solvent content:**

· **Organic solvents:** 0.0 %

· **VOC (Per EPA 24)** N/A GMS/L

· **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** Reacts with strong oxidizing agents.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Aliphatic Amine

Dermal	LD50	660 mg/kg (rabbit)
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· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** Skin Contact - Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Harmful to aquatic organisms

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA · ADN | <p style="margin-left: 20px;">UN1760</p> <p style="margin-left: 20px;">Void</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, IMDG, IATA · ADR · ADN | <p style="margin-left: 20px;">CORROSIVE LIQUID, N.O.S. (Polyamine Additive, TETRAETHYLENEPENTAMINE)</p> <p style="margin-left: 20px;">1760 CORROSIVE LIQUID, N.O.S. (Polyamine Additive, TETRAETHYLENEPENTAMINE)</p> <p style="margin-left: 20px;">Void</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, IMDG, IATA | <div style="text-align: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Class · Label |
| <ul style="list-style-type: none"> · ADR | <div style="text-align: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Class · Label · ADN/R Class: |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | <p style="margin-left: 20px;">8 Corrosive substances.</p> <p style="margin-left: 20px;">8</p> <hr style="border-top: 1px dashed black;"/> <p style="margin-left: 20px;">8 Corrosive substances</p> <p style="margin-left: 20px;">8</p> <p style="margin-left: 20px;">Void</p> <p style="margin-left: 20px;">III</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups | <p style="margin-left: 20px;">Warning: Corrosive substances</p> <p style="margin-left: 20px;">80</p> <p style="margin-left: 20px;">F-A,S-B</p> <p style="margin-left: 20px;">Alkalis</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p style="margin-left: 20px;">Not applicable.</p> |

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· **UN "Model Regulation":** UN1760, CORROSIVE LIQUID, N.O.S. (Polyamine Additive, TETRAETHYLENEPENTAMINE), 8, III

15 Regulatory information

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity:**

None of the ingredients is listed.

· **(DSL) Canada Domestic Substance List**

All components of this product are on the DSL(Canada Domestic Substance list) or are exempt from DSL requirements.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

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

Aliphatic Amine

· **Risk phrases:**

Causes burns.

May cause sensitisation by skin contact.

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Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **National regulations:**

· **Water hazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

* 16 Other information

Although the information and recommendations set forth in this MSDS are presented in good faith and are believed to be correct as of the date of this MSDS, Royal Adhesives & Sealants makes no representations as to the completeness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Royal Adhesives & Sealants or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the MSDS.

· **Department issuing MSDS:** *Environment protection department.*

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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