

**Safety Data Sheet**  
acc. to OSHA HCS

Printing Date 08/28/2018

Revision Number 4

Revision Date 08/11/2017

**1 Identification**

- **Product identifier**
- **Trade name:** 48173 (Hardman Epoweld 8173 Part A)
- **Article number:** 48173
- **Relevant identified uses of the substance or mixture.** Adhesive
- **Application of the substance / the mixture** Epoxy resin adhesive
- **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 Phone Number: 574-246-5000
- **Information department:** Environment protection department.
- **Emergency telephone number:**  
ChemTrec: Day or Night within USA and Canada: 1-800-424-9300.  
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.

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**Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves / eye protection / face protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**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

Health = 2

Fire = 1

Physical Hazard = 0

**Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

## 3 Composition/information on ingredients

**Chemical characterization: Mixtures****Description: Resin mixture****Hazardous components:**

28064-14-4	epoxy novolac	50-100%
25068-38-6	Bisphenol A Epoxy Resin	5-20%
68460-21-9	trimethylol ethane triglycidyl ether polymer	5-20%

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## 4 First-aid measures

- **Description of 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. If symptoms persist, consult a doctor.
- **After swallowing:** Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**  
Firefighters use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.  
Use water spray to cool fire exposed containers.
- **Protective equipment:** Protective clothing and respiratory protective device.

## 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.
- **Protective Action Criteria for Chemicals**

### • PAC-1:

25068-38-6	Bisphenol A Epoxy Resin	90 mg/m <sup>3</sup>
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### • PAC-2:

25068-38-6	Bisphenol A Epoxy Resin	990 mg/m <sup>3</sup>
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## PAC-3:

25068-38-6 Bisphenol A Epoxy Resin

5,900 mg/m3

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Open and handle receptacle with care.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **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:** Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **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.
- **Exposure controls**
- **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:** Not necessary if room is well-ventilated.
- **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

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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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- **Eye protection:**  
Safety glasses with side shields.



Tightly sealed goggles

- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

##### · Appearance:

Form:	Liquid
Color:	Clear
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value:	Not determined.
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##### · Change in condition

Melting point:	Undetermined.
Boiling point:	Undetermined

Flash point:	191 °C (375.8 °F)
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Flammability (solid, gaseous):	Not applicable.
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Product does not present an explosion hazard.
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##### · Flammable limits:

Lower:	Not Available
Upper:	Not Available

Vapor pressure:	Not determined.
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Specific gravity at 20 °C (68 °F):	1.19 g/cm <sup>3</sup> (9.93055 lbs/gal)
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Relative density	Not determined.
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Vapor density	Not determined.
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Evaporation rate	Not determined.
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##### · Solubility in / Miscibility with

Water:	Not miscible or difficult to mix.
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Partition coefficient (n-octanol/water):	Not determined.
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##### · Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

##### · Solvent content:

Organic solvents:	0.0 %
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VOC (Per EPA 24)

5.04 GMS/L

Solids content:

Not available.

Other information

No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No further information is available.
- **Conditions to avoid** Exposure to high temperatures.
- **Incompatible materials:**
  - Reacts with oxidizing agents.
  - Reacts with amines.
- **Hazardous decomposition products:**
  - Carbon monoxide and carbon dioxide
  - Aldehydes
  - Acids

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

28064-14-4 epoxy novolac

Oral LD50 &gt;4,000 mg/kg (rat)

- **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

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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## 12 Ecological information

- **Toxicity**
- **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.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:** At present there are no ecotoxicological assessments.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |   |  |
|---|--|
| • <b>UN-Number</b>  |  |
| • <b>DOT</b>  | not regulated  |
| • <b>IMDG, IATA</b>   | UN3082   |
| • <b>UN proper shipping name</b>  |  |
| • <b>DOT</b>  | not regulated  |
| • <b>IMDG</b>   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,<br>N.O.S. (epoxy polymer, Bisphenol A Epoxy Resin), MARINE<br>POLLUTANT |
| • <b>IATA</b>   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,<br>N.O.S. (epoxy polymer, Bisphenol A Epoxy Resin)                      |
| • <b>Transport hazard class(es)</b>   |  |
| • <b>DOT</b>  |  |
| • <b>Class</b>  | not regulated  |
| • <b>IMDG, IATA</b>   |  |
|   |  |
| • <b>Class</b>  | 9 Miscellaneous dangerous substances and articles  |

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· <b>Label</b>	9
· <b>Packing group</b>	
· <b>DOT</b>	not regulated
· <b>IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	Product contains environmentally hazardous substances: epoxy polymer
· <b>Marine pollutant:</b>	Yes
	Symbol (fish and tree)
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special marking (IATA):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Miscellaneous dangerous substances and articles
· <b>Danger code (Kemler):</b>	90
· <b>EMS Number:</b>	F-A,S-F
· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN3082, Environmentally hazardous substances, liquid, n.o.s. (Epoxy Polymer, Bisphenol A Epoxy Resin), 9, III

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- 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 for females:

None of the ingredients is listed.

##### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

##### · Chemicals known to cause developmental 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.

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• **New Jersey Right-to-Know List:**

None of the ingredients is listed.

• **New Jersey Special Hazardous Substance List:**

None of the ingredients is listed.

• **Pennsylvania Right-to-Know List:**

None of the ingredients is listed.

• **Pennsylvania Special Hazardous Substance List:**

None of the ingredients is listed.

• **Cancerogenity categories**

• **EPA (Environmental Protection Agency)**

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.

• **National regulations:**

• **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

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

## 16 Other information

Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, 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 SDS.

• **Department issuing SDS:** Environment protection department.

• **Creation Date:** 08/11/2017

• **Date of preparation / last revision** 08/28/2018 / 3

• **Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

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*LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Skin Sens. 1: Skin sensitisation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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