

Part B

Safety Data Sheet

Issue Date: 01-Jan-2005

Revision Date: 25-Apr-2014

Version 1

1. IDENTIFICATION

Product Identifier

Product Name E-R Hardener

Other means of identification

SDS # PRS-003
Product Code E-R Resin Hardener
UN/ID No UN1760

Recommended use of the chemical and restrictions on use

Recommended Use Resin hardener.

Details of the supplier of the safety data sheet

Manufacturer Address

Prosthetics Research Specialists, Inc.
720 E. Southland Avenue
Bushnell, FL USA 33513

Emergency Telephone Number

Company Phone Number 352-793-4477
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Pale mobile liquid

Physical State Liquid

Odor Amine

Classification

| | |
|---|---------------------------|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1 |

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

Signal Word

Danger

Hazard Statements

Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
May cause an allergic skin reaction



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do not induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|-------------------------|-----------|----------|
| Paratertiarybutylphenol | 98-54-4 | <50 |
| m-Xylenediamine | 1477-55-0 | <30 |
| Trimethylhexanediamine | 3236-53-1 | >25 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

| | |
|---------------------|---|
| Eye Contact | Immediately flush eyes with water for 30 minutes while lifting the upper and lower lids. Seek immediate medical attention/advice. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing. Wash contaminated clothing before reuse. Call a physician immediately. |
| Inhalation | Remove to fresh air. Call a physician immediately. |
| Ingestion | Do not induce vomiting. Drink plenty of water or milk immediately. Call a physician or poison control center immediately. |

Most important symptoms and effects

| | |
|-----------------|---|
| Symptoms | In severe cases, burns, corneal damage, and blindness may occur. Repeated exposure may cause sensitization due to an allergic reaction of the skin. Irritation and corrosive burns to mouth, throat, and stomach. May cause irritation to the mucous membranes and upper respiratory tract. |
|-----------------|---|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray (fog). Alcohol resistant foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

None known.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| | |
|----------------------------------|---|
| Personal Precautions | Use personal protective equipment as required. |
| Environmental Precautions | See Section 12 for additional Ecological Information. |

Methods and material for containment and cleaning up

| | |
|--------------------------------|---|
| Methods for Containment | Prevent further leakage or spillage if safe to do so. |
| Methods for Clean-Up | Contain and collect with an inert absorbent and place into an appropriate container for disposal. |

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling

Wash thoroughly after handling. Use personal protection recommended in Section 8. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only in well-ventilated areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Incompatible Materials

Epoxy resins under uncontrolled conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------------------|--------------------------------|--------------------------------|--------------------------------|
| m-Xylenediamine 1477-55-0 | Ceiling: 0.1 mg/m ³ | Ceiling: 0.1 mg/m ³ | Ceiling: 0.1 mg/m ³ |

Appropriate engineering controls

Engineering Controls

Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Goggles.

Skin and Body Protection

Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory Protection

Use NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State

Liquid

Appearance

Pale mobile liquid

Color

Not determined

Odor

Amine

Odor Threshold

Not determined

Property

Values

Remarks • Method

pH

Not determined

Melting Point/Freezing Point

Not determined

Boiling Point/Boiling Range

230 °C / 446 °F

Flash Point

110 °C / 230 °F

Evaporation Rate

Not determined

Flammability (Solid, Gas)

n/a-liquid

Upper Flammability Limits

Not determined

Lower Flammability Limit

Not determined

Vapor Pressure

Not available

Vapor Density

Not available

Specific Gravity

1.0

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|------------------------------|----------------|-------------------------|
| Water Solubility | <1 | |
| Solubility in other solvents | Not determined | |
| Partition Coefficient | Not determined | |
| Auto-ignition Temperature | Not determined | |
| Decomposition Temperature | Not determined | |
| Kinematic Viscosity | Not determined | |
| Dynamic Viscosity | Not determined | |
| Explosive Properties | Not determined | |
| Oxidizing Properties | Not determined | |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Can react strongly with epoxy resins at elevated temperatures.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Epoxy resins under uncontrolled conditions.

Hazardous Decomposition Products

Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact

Causes severe eye damage.

Skin Contact

Causes severe skin burns. May cause an allergic skin reaction.

Inhalation

Harmful if inhaled.

Ingestion

Harmful if swallowed.

Component Information

| <u>Chemical Name</u> | <u>Oral LD50</u> | <u>Dermal LD50</u> | <u>Inhalation LC50</u> |
|------------------------------------|----------------------|-------------------------|------------------------|
| Paratertiarybutylphenol 98-54-4 | = 2990 mg/kg (Rat) | = 2318 mg/kg (Rabbit) | - |
| m-Xylenediamine 1477-55-0 | = 930 mg/kg (Rat) | = 2000 mg/kg (Rabbit) | = 700 ppm (Rat) 1 h |

Information on physical, chemical and toxicological effects

Symptoms

Please see section 4 of this SDS for symptoms.

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

Sensitization May cause an allergic skin reaction.

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|------------------------------------|---|---|----------------------------|---|
| Paratertiarybutylphenol 98-54-4 | 11.2: 72 h Desmodesmus subspicatus mg/L EC50 | 4.71 - 5.62: 96 h Pimephales promelas mg/L LC50 flow-through 6.9: 96 h Cyprinus carpio mg/L LC50 static | | 3.9: 48 h Daphnia magna mg/L EC50 3.4 - 4.5: 48 h Daphnia magna mg/L EC50 Static |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

| Chemical Name | Partition Coefficient |
|------------------------------------|-----------------------|
| Paratertiarybutylphenol 98-54-4 | 2.44 |

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|------------------------------------|------|-----------------------------------|------------------------|------------------------|
| Paratertiarybutylphenol 98-54-4 | | Included in waste stream: K060 | | |

14. TRANSPORT INFORMATION**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No UN1760
Proper Shipping Name Corrosive liquid, n.o.s. (Benzene-1,3-Dimethaneamine)
Hazard Class 8
Packing Group II

IATA

UN/ID No UN1760
Proper Shipping Name Corrosive liquid, n.o.s. (Benzene-1,3-Dimethaneamine)
Hazard Class 8
Packing Group II

IMDG

UN/ID No UN1760
Proper Shipping Name Corrosive liquid, n.o.s. (Benzene-1,3-Dimethaneamine)
Hazard Class 8
Packing Group II
Marine Pollutant This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION**International Inventories**

TSCA Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations**SARA 311/312 Hazard Categories**

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

US State Regulations**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|------------------------------|------------|---------------|--------------|
| m-Xylenediamine 1477-55-0 | X | X | X |

16. OTHER INFORMATION

NFPA

Health Hazards

Flammability

Instability

Special Hazards

3

1

0

Not determined

HMIS

Health Hazards

Flammability

Physical Hazards

Personal Protection

Not determined

Not determined

Not determined

Not determined

Issue Date: 01-Jan-2005

Revision Date: 25-Apr-2014

Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet