

1. PRODUCT AND COMPANY IDENTIFICATION

Product name TuffRez 212 Low Temperature Epoxy - Hardener/Side B
Version # 1.0
Revision date 19-Jun-2008
Company information PolySpec
 6614 Gant Road
 Houston, TX 77066 US
Emergency Chemtrec (800) 424-9300
 International (703) 527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component(s)	CAS #	Percent
Benzyl Alcohol	100-51-6	< 40
M-Xylene-.alpha., .alpha.-diamine	1477-55-0	< 20
Phenol	108-95-2	< 20

Non-hazardous and other components below reportable levels > 40

Composition comments This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

3. HAZARDS IDENTIFICATION

Emergency overview Irritating to respiratory system. Kidney injury may occur. Danger of serious damage to health by prolonged exposure. Toxic by inhalation, in contact with skin and if swallowed. May cause breathing disorders and lung damage. May cause liver damage. Causes skin and eye burns.

Potential short term health effects

Eyes Toxic in contact with eyes. This product causes eye burns. Risk of serious damage to eyes.

Skin Toxic in contact with skin. Causes skin burns.

Inhalation Toxic by inhalation. May cause breathing disorders and lung damage. Irritating to respiratory system.

Ingestion Toxic if swallowed. Do not ingest. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Target organs Eyes. Kidney. Liver. Respiratory system. Skin.

Main symptoms Liver injury may occur. Kidney injury may occur.

4. FIRST AID MEASURES

First aid

Eye contact Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately.

Skin contact Get medical attention immediately. Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin.

Inhalation Call a physician or Poison Control Center immediately. Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately. If breathing is difficult, give oxygen. Get medical attention, if needed.

Ingestion If material is ingested, immediately contact a physician or poison control center. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim ingested the substance.

Notes to physician Symptoms may be delayed.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Immediate medical attention is required. Keep victim warm. In case of shortness of breath, give oxygen.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Carbon dioxide (CO ₂). Alcohol foam. Water spray. Water Fog. Polymer foam. Dry chemical powder.
Fire fighting equipment/instructions	Move containers from fire area if you can do it without risk. Do not scatter spilled material with high pressure water streams. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. ALWAYS stay away from tanks engulfed in flame. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. Cool containers with flooding quantities of water until well after fire is out.
Specific methods	In the event of fire, cool tanks with water spray. Water mist may be used to cool closed containers.
Flash point	230 °F (110 °C) Pensky-Martens Closed Cup

6. ACCIDENTAL RELEASE MEASURES

Evacuation procedures	Ventilate closed spaces before entering. Stay upwind. Keep out of low areas. Keep unnecessary personnel away.
Containment procedures	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift.
Personal precautions	Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Ensure adequate ventilation. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for cleaning up	Avoid dust formation. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Dike far ahead of liquid spill for later disposal. Never return spills in original containers for re-use. Should not be released into the environment. Large Spills: Wet down with water and dike for later disposal. After removal flush contaminated area thoroughly with water.

7. HANDLING AND STORAGE

Handling	Do not breathe gas/fumes/vapor/spray. Do not get this material in your eyes, on your skin, or on your clothing. In case of insufficient ventilation wear suitable respiratory equipment. Do not handle or store near an open flame, heat or other sources of ignition. Surfaces may become slippery after spillage.
Storage	Keep out of the reach of children. Keep in a cool, well-ventilated place. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Do not freeze.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

ACGIH - Threshold Limits Values - Ceilings (TLV-C)

M-Xylene-.alpha., .alpha.-diamine 1477-55-0 0.1 Mg/m³ Ceiling

ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-TWA)

Phenol 108-95-2 5 Ppm TWA

ACGIH - Threshold Limits Values - TLV Basis - Critical Effects

M-Xylene-.alpha., .alpha.-diamine 1477-55-0 irritation; blood

Phenol 108-95-2 Irritation; CNS; blood

OSHA - Final PELs - Skin Notations

Phenol 108-95-2 prevent or reduce skin absorption

OSHA - Final PELs - Time Weighted Averages (TWAs)

Phenol 108-95-2 5 Ppm TWA; 19 mg/m³ TWA

Personal protective equipment

Respiratory protection A NIOSH- approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection Protective gloves.

Eye protection Wear chemical goggles. Face-shield.

Skin and body protection Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear appropriate chemical resistant gloves. Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Wear suitable protective clothing.

General Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Avoid contact with the skin and the eyes.

Engineering measures to reduce exposure Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Hygiene measures Keep away from food and drink. Avoid contact with the skin and the eyes. Handle in accordance with good industrial hygiene and safety practice. When using do not smoke.

9. PHYSICAL & CHEMICAL PROPERTIES

Density 9.0797 lb/gal

Form Liquid.

Specific gravity 1.09

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Stability Stable at normal conditions.

Conditions to avoid Direct sources of heat.

Hazardous polymerization Will not occur.

Incompatibility Acids. Amines. Caustics. Isocyanates. Strong oxidizing agents. Will form explosive mixtures in air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity Causes burns.

Local effects Toxic by inhalation, in contact with skin and if swallowed. Liver toxicity. Irritating to respiratory system.

Component analysis - LD50

NIOSH - Selected LD50s and LC50s

Benzyl Alcohol	100-51-6	Oral LD50 Rat: 1230 mg/kg; Oral LD50 Mouse: 1360 mg/kg; Dermal LD50 Rabbit: 2 g/kg
M-Xylene-.alpha., .alpha.-diamine	1477-55-0	Inhalation LC50 Rat: 700 ppm/1H; Oral LD50 Rat: 930 mg/kg; Dermal LD50 Rabbit: 2 g/kg
Phenol	108-95-2	Oral LD50 Rat: 317 mg/kg; Oral LD50 Mouse: 270 mg/kg; Dermal LD50 Rabbit: 630 mg/kg

Carcinogenicity

ACGIH - Threshold Limits Values - Carcinogens

Phenol	108-95-2	A4 - Not Classifiable as a Human Carcinogen
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Chronic toxicity Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged or repeated exposure may cause lung injury.

Subchronic toxicity Kidney injury may occur.

Further information Symptoms may be delayed.

Routes of exposure Inhalation. Skin contact. Ingestion.

12. ECOLOGICAL INFORMATION

Ecotoxicity Components of this product are hazardous to aquatic life.

Environmental effects Harmful to aquatic life.

Ecotoxicity - Freshwater Fish Species Data

Benzyl Alcohol	100-51-6	96 Hr LC50 fathead minnow: 460 mg/L (Static);96 Hr LC50 bluegill: 10 mg/L (Static)
Phenol	108-95-2	96 Hr LC50 fathead minnow: 24 mg/L (flow-through);96 Hr LC50 rainbow trout: 8.9 mg/L (flow-through);96 Hr LC50 bluegill: 23.88 mg/L (Static)

Ecotoxicity - Microtox Data

Benzyl Alcohol	100-51-6	5 Min EC50 Photobacterium phosphoreum: 63.7 mg/L; 15 min EC50 Photobacterium phosphoreum: 63.7 mg/L; 30 min EC50 Photobacterium phosphoreum: 71.4 mg/L
Phenol	108-95-2	5 Min EC50 Photobacterium phosphoreum: 28.8 mg/L; 15 min EC50 Photobacterium phosphoreum: 31.6 mg/L

Ecotoxicity - Water Flea Data

Benzyl Alcohol	100-51-6	48 Hr EC50 water flea: 23 mg/L
Phenol	108-95-2	48 Hr LC50 water flea: 23.0 mg/L

13. DISPOSAL CONSIDERATIONS

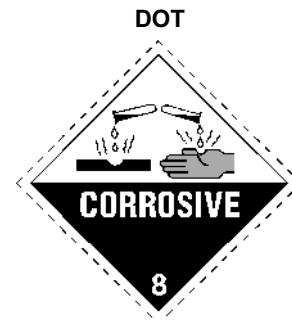
Disposal instructions

Dispose in accordance with all applicable regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

14. TRANSPORTATION INFORMATION

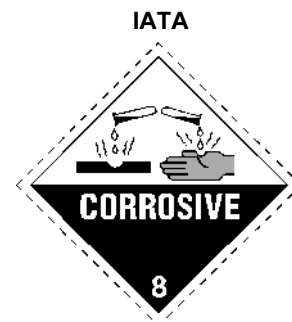
Department of Transportation (DOT) Requirements

Proper shipping name	PAINT
Hazard class	8
Special provisions	B52, IB3, T4, TP1
Packaging exceptions	154
Packaging non bulk	173
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
UN number	UN3066
Packaging group	III
Labels required	8
ERG number	153



International Air Transport Association (IATA) Requirements

Proper shipping name	PAINT RELATED MATERIAL CORROSIVE
Hazard class	8
Special provisions	B52, IB3, T4, TP1
Packaging exceptions	154
Packaging non bulk	173
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
UN number	UN3066
Packaging group	III
Labels required	8
Passenger Cargo Pkg Inst	Y818
LQ	818
Packaging Instructions	820
Pkg Inst Cargo Only	



International Maritime Dangerous Goods (IMDG) Code Requirements

Proper shipping name	PAINT
Hazard class	8
Special provisions	163,
Packaging exceptions	154
Packaging non bulk	173
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
Item	C9
UN number	UN3066
Packaging group	III
Labels required	8
Hazard ID	80
Transport Category	3



15. REGULATORY INFORMATION

US federal regulations

CERCLA/SARA - Section 313 - Emission Reporting

Phenol 108-95-2 1.0 % de minimis concentration

Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

Benzyl Alcohol 100-51-6 202-859-9

M-Xylene-.alpha., .alpha.-diamine 1477-55-0 216-032-5

Phenol 108-95-2 203-632-7

Inventory - United States - Section 8(b) Inventory (TSCA)

Benzyl Alcohol 100-51-6 Present

M-Xylene-.alpha., .alpha.-diamine 1477-55-0 Present

Phenol 108-95-2 Present

TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification

Phenol 108-95-2 Section 4

Occupational safety and health administration (OSHA)

29 CFR 1910.1200 Yes
hazardous chemical

CERCLA (superfund) reportable quantity

None

Superfund amendments and reauthorization act of 1986 (SARA)

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

NFPA ratings

Health: 3
Flammability: 1
Instability: 0

International regulations

Canada - 2004 NPRI (National Pollutant Release Inventory)

Phenol 108-95-2 Part 1, Group 1 Substance

Canada - WHMIS - Ingredient Disclosure List

Benzyl Alcohol 100-51-6 1 % (English Item 169, French Item 170)

M-Xylene-.alpha., .alpha.-diamine 1477-55-0 1 % (English Item 1697, French Item 1725)

Phenol 108-95-2 1 % (English Item 1261, French Item 1374)

State regulations

Massachusetts - Right To Know List

Benzyl Alcohol	100-51-6	Present
M-Xylene-.alpha., .alpha.-diamine	1477-55-0	Present
Phenol	108-95-2	Extraordinarily hazardous

New Jersey - Right to Know Hazardous Substance List

M-Xylene-.alpha., .alpha.-diamine	1477-55-0	sn 1320
Phenol	108-95-2	sn 1487

Pennsylvania - RTK (Right to Know) List

Benzyl Alcohol	100-51-6	Present
M-Xylene-.alpha., .alpha.-diamine	1477-55-0	Present
Phenol	108-95-2	Environmental hazard

16. OTHER INFORMATION

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 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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.

Issue date

19-Jun-2008