

1. PRODUCT AND COMPANY IDENTIFICATION

Product name TuffRez 200, 201, 203 - Hardener/Side B
Version # 1.0
Revision date 10-Jul-2009
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
Phenol, nonyl	84852-15-3	< 60
Propylene glycol diamine, 2-amino-, diether with Propylene	9046-10-0	< 60
N-aminoethyl piperazine	140-31-8	< 20
Composition comments	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	

3. HAZARDS IDENTIFICATION

Emergency overview Toxic by inhalation, in contact with skin and if swallowed. 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.
Ingestion Toxic if swallowed. Do not ingest. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

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 Move to fresh air. 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. Call a physician or Poison Control Center immediately. Oxygen or artificial respiration if needed.
Ingestion Do not induce vomiting without medical advice. 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. If material is ingested, immediately contact a physician or poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.
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. Keep victim warm. In case of shortness of breath, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media Small Fires:

 Large Fires: Dry chemical, CO2, water spray or regular foam. Water spray, fog or regular foam.

Fire fighting equipment/instructions	Move containers from fire area if you can do it without risk. 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. Do not scatter spilled material with high pressure water streams.
Flash point	200.1 °F (93.4 °C) Pensky-Martens Closed Cup

6. ACCIDENTAL RELEASE MEASURES

Evacuation procedures	Stay upwind. Keep out of low areas. Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Ventilate closed spaces before entering.
Containment procedures	Prevent entry into waterways, sewers, basements or confined areas. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
Personal precautions	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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. Keep people away from and upwind of spill/leak.
Methods for cleaning up	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.

7. HANDLING AND STORAGE

Handling	Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation wear suitable respiratory equipment. Do not get this material in your eyes, on your skin, or on your clothing. 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

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

9. PHYSICAL & CHEMICAL PROPERTIES

Boiling point	516 °F (268.9 °C)
Density	8.0238 lb/gal
Form	Liquid.
PH	9
Specific gravity	0.9629
Vapor pressure	1.71 Mm Hg @ 70° F

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Stability	Stable at normal conditions.
Conditions to avoid	Direct sources of heat.
Hazardous polymerization	Will not occur.

Incompatibility

Acids. Alcohols. Cresol. Glycol. Isocyanates. Phenol. Strong oxidizing agents. Vinyl acetates.
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.

Component analysis - LD50**NIOSH - Selected LD50s and LC50s**

N-aminoethyl piperazine	140-31-8	Oral LD50 Rat: 2140 µL/kg; Dermal LD50 Rabbit: 880 µL/kg
Phenol, nonyl	84852-15-3	Oral LD50 Rat: 1300 mg/kg
Propylene glycol diamine, 2-amino-, diether with Propylene	9046-10-0	Oral LD50 Rat: 242 mg/kg; Dermal LD50 Rabbit: 360 mg/kg

Routes of exposure

Inhalation. Skin contact. Ingestion.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Components of this product have been identified as having potential environmental concerns.

Environmental effects**Ecotoxicity - Freshwater Fish Species Data**

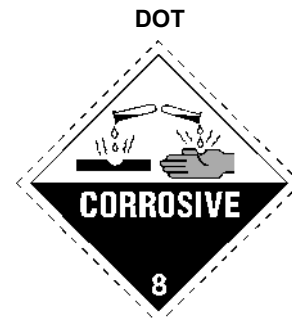
N-aminoethyl piperazine	140-31-8	96 Hr LC50 fathead minnow: 2190 mg/L (flow-through)
-------------------------	----------	---

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.

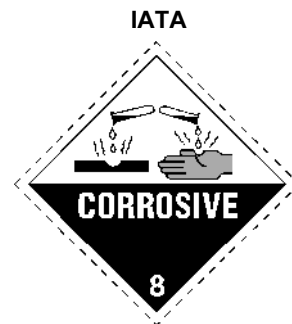
14. TRANSPORTATION INFORMATION**Department of Transportation (DOT) Requirements**

Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S., (PHENOL, NONYL)
Hazard class	8
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
UN number	UN2735
Packaging group	III
Labels required	8
ERG number	154



International Air Transport Association (IATA) Requirements

Proper shipping name	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PHENOL, NONYL)
Hazard class	8
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
UN number	UN2735
Packaging group	III
Labels required	8
Passenger Cargo Pkg Inst LQ	Y818
Packaging Instructions	818
Pkg Inst Cargo Only	820



International Maritime Dangerous Goods (IMDG) Code Requirements

Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. OR POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PHENOL, NONYL)
Hazard class	8
Special provisions	274
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241
Quantity limits passenger	5 L
Quantity limits cargo	60 L
Vessel stowage location	A
Item	C7
UN number	UN2735
Packaging group	III
Labels required	8
Hazard ID	80
Transport Category	3



15. REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

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

N-aminoethyl piperazine	140-31-8	205-411-0
Phenol, nonyl	84852-15-3	284-325-5

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

N-aminoethyl piperazine	140-31-8	Present
Phenol, nonyl	84852-15-3	Present
Propylene glycol diamine, 2-amino-, diether with Propylene	9046-10-0	XU

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 - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

NFPA ratings Health: 3
Flammability: 1
Instability: 0

International regulations

Canada - WHMIS - Ingredient Disclosure List

N-aminoethyl piperazine 140-31-8 1 % (English Item 68, French Item 213)

State regulations

Massachusetts - Right To Know List

N-aminoethyl piperazine 140-31-8 Present

New Jersey - Right to Know Hazardous Substance List

N-aminoethyl piperazine 140-31-8 sn 0075

Pennsylvania - RTK (Right to Know) List

N-aminoethyl piperazine 140-31-8 Present

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

10-Jul-2009