

1. PRODUCT AND COMPANY IDENTIFICATION

Product name PolySpec Hardener #1
Version # 1.0
Revision date 24-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
Dimethyl phthalate	131-11-3	< 60
Methyl ethyl ketone peroxide	1338-23-4	< 40
Methyl ethyl ketone	78-93-3	< 2.5
Hydrogen peroxide	7722-84-1	< 1
Non-hazardous and other components below reportable levels		> 20

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 brain and central nervous system 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 Central nervous system. Eyes. Kidney. Liver. Respiratory system. Skin.

Main symptoms Chronic exposure to neurotoxins damages the brain and the central nervous system. 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 (CO₂). Water spray. 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 200 °F (93.3 °C)

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.

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. 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)

Methyl ethyl ketone peroxide 1338-23-4 0.2 Ppm Ceiling

ACGIH - Threshold Limits Values - Short Term Exposure Limits (TLV-STEL)

Methyl ethyl ketone 78-93-3 300 Ppm STEL

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

Dimethyl phthalate 131-11-3 5 Mg/m³ TWA

Hydrogen peroxide 7722-84-1 1 Ppm TWA

Methyl ethyl ketone 78-93-3 200 Ppm TWA

ACGIH - Threshold Limits Values - TLV Basis - Critical Effects

Dimethyl phthalate 131-11-3 irritation

Hydrogen peroxide 7722-84-1 Irritation; pulmonary edema; CNS

Methyl ethyl ketone 78-93-3 Irritation; CNS

Methyl ethyl ketone peroxide 1338-23-4 irritation; liver; kidney

OSHA - Final PELs - Time Weighted Averages (TWAs)

Dimethyl phthalate 131-11-3 5 Mg/m³ TWA

Hydrogen peroxide 7722-84-1 1 Ppm TWA; 1.4 mg/m³ TWA

Methyl ethyl ketone 78-93-3 200 Ppm TWA; 590 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 9.1663 lb/gal

Form Liquid.

Specific gravity 1.1

Vapor density 1

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Stability Stable at normal conditions.

Conditions to avoid Direct sources of heat.

Hazardous polymerization Will not occur.

Incompatibility Amines. Strong acids. Strong oxidizing agents. Will form explosive mixtures in air. This product is incompatible with nitrates.

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

Dimethyl phthalate	131-11-3	Oral LD50 Rat: 6800 mg/kg; Oral LD50 Mouse: 6800 mg/kg; Dermal LD50 Rabbit: >20 mL/kg
Hydrogen peroxide	7722-84-1	Oral LD50 Rat: 1518 mg/kg
Methyl ethyl ketone	78-93-3	Inhalation LC50 Rat: 23500 mg/m ³ /8H; Inhalation LC50 Mouse: 32 g/m ³ /4H; Oral LD50 Rat: 2737 mg/kg; Oral LD50 Mouse: 4050 mg/kg; Dermal LD50 Rabbit: 6480 mg/kg
Methyl ethyl ketone peroxide	1338-23-4	Inhalation LC50 Rat: 200 ppm/4H; Inhalation LC50 Mouse: 170 ppm/4H; Oral LD50 Rat: 484 mg/kg; Oral LD50 Mouse: 470 mg/kg

Carcinogenicity

ACGIH - Threshold Limits Values - Carcinogens

Hydrogen peroxide 7722-84-1 A3 - Confirmed animal carcinogen with unknown relevance to humans

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 have been identified as having potential environmental concerns.

Environmental effects

Ecotoxicity - Freshwater Algae Data

Dimethyl phthalate	131-11-3	96 Hr EC50 freshwater algae (Selenastrum capricornutum): 39.8 mg/L; 96 Hr EC50 freshwater algae (Skeletonema costatum): 26.1 mg/L
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Ecotoxicity - Freshwater Fish Species Data

Dimethyl phthalate	131-11-3	96 Hr LC50 bluegill: 50 mg/L; 96 Hr LC50 fathead minnow: 121 mg/L (flow-through)
Hydrogen peroxide	7722-84-1	48 Hr LC50 carp: 42 mg/L
Methyl ethyl ketone	78-93-3	96 Hr LC50 fathead minnow: 3220 mg/L (flow-through); 96 Hr LC50 bluegill: 1690 mg/L

Ecotoxicity - Microtox Data

Dimethyl phthalate	131-11-3	5 Min EC50 Photobacterium phosphoreum: 16.0 mg/L; 15 min EC50 Photobacterium phosphoreum: 18.0 mg/L; 30 min EC50 Photobacterium phosphoreum: 18.0 mg/L
Methyl ethyl ketone	78-93-3	5 Min EC50 Photobacterium phosphoreum: 3426 mg/L; 30 min EC50 Photobacterium phosphoreum: 3403 mg/L

Ecotoxicity - Water Flea Data

Dimethyl phthalate	131-11-3	48 Hr EC50 water flea: 33 mg/L
Methyl ethyl ketone	78-93-3	48 Hr EC50 water flea: 520 mg/L

13. DISPOSAL CONSIDERATIONS

Disposal instructions

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. Dispose in accordance with all applicable regulations.

14. TRANSPORTATION INFORMATION

Department of Transportation (DOT) Requirements

Proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Hazard class	5.2
Packaging exceptions	152
Packaging non bulk	225
Packaging bulk	None
Quantity limits passenger	5 L
Quantity limits cargo	10 L
Vessel stowage location	D
Vessel stowage other	12, 40
UN number	UN3105
Packaging group	II
Labels required	5.2
ERG number	145

DOT



International Air Transport Association (IATA) Requirements

Proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Hazard class	5.2
Packaging exceptions	152
Packaging non bulk	225
Packaging bulk	None
Quantity limits passenger	5 L
Quantity limits cargo	10 L
Vessel stowage location	D
Vessel stowage other	12, 40
UN number	UN3105
Packaging group	II
Labels required	5.2
Passenger Cargo Pkg Inst LQ	-
Packaging Instructions	502
Pkg Inst Cargo Only	502

IATA



International Maritime Dangerous Goods (IMDG) Code Requirements

Proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID
Hazard class	5.2
Packaging exceptions	152
Packaging non bulk	225
Packaging bulk	None
Quantity limits passenger	5 L
Quantity limits cargo	10 L
Vessel stowage location	D
Vessel stowage other	12, 40
UN number	UN3105
Packaging group	II
Labels required	5.2

IMDG



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 - Section 313 - Emission Reporting

Dimethyl phthalate	131-11-3	1.0 % de minimis concentration
Methyl ethyl ketone	78-93-3	1.0 % de minimis concentration

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

Dimethyl phthalate	131-11-3	205-011-6
Hydrogen peroxide	7722-84-1	231-765-0
Methyl ethyl ketone	78-93-3	201-159-0
Methyl ethyl ketone peroxide	1338-23-4	215-661-2

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

Dimethyl phthalate	131-11-3	Present
Hydrogen peroxide	7722-84-1	Present
Methyl ethyl ketone	78-93-3	Present
Methyl ethyl ketone peroxide	1338-23-4	Present

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 - Yes

NFPA ratings

Health: 3
Flammability: 1
Instability: 2

International regulations

Canada - 2004 NPRI (National Pollutant Release Inventory)

Dimethyl phthalate	131-11-3	Part 1, Group 1 Substance
Methyl ethyl ketone	78-93-3	Part 1, Group 1 Substance; Part 5 Substance

Canada - WHMIS - Ingredient Disclosure List

Dimethyl phthalate	131-11-3	1 % (English Item 633, French Item 1420)
Hydrogen peroxide	7722-84-1	1 % (English Item 849, French Item 1365)
Methyl ethyl ketone	78-93-3	1 % (English Item 1045, French Item 1133)
Methyl ethyl ketone peroxide	1338-23-4	1 % (English Item 1046, French Item 1367)

State regulations

Massachusetts - Right To Know List

Dimethyl phthalate	131-11-3	Present
Hydrogen peroxide	7722-84-1	Extraordinarily hazardous
Methyl ethyl ketone	78-93-3	Present
Methyl ethyl ketone peroxide	1338-23-4	Present

New Jersey - Right to Know Hazardous Substance List

Dimethyl phthalate	131-11-3	sn 0765
Hydrogen peroxide	7722-84-1	sn 1015
Methyl ethyl ketone	78-93-3	sn 1258
Methyl ethyl ketone peroxide	1338-23-4	sn 1259

Pennsylvania - RTK (Right to Know) List

Dimethyl phthalate	131-11-3	Environmental hazard
Hydrogen peroxide	7722-84-1	Environmental hazard
Methyl ethyl ketone	78-93-3	Environmental hazard
Methyl ethyl ketone peroxide	1338-23-4	Environmental hazard

16. OTHER INFORMATION

Disclaimer

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. 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.

Issue date

24-Jun-2008