

1. PRODUCT AND COMPANY IDENTIFICATION

Product name PolySpec 196 Bonding Agent
Version # 1.0
Revision date 12-May-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 |
|--|---|---------|
| Ethyl alcohol | 64-17-5 | < 40 |
| Methyl alcohol | 67-56-1 | < 40 |
| Non-hazardous and other components below reportable levels | | > 10 |
| Composition comments | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |

3. HAZARDS IDENTIFICATION

Emergency overview Highly flammable. In use, may form flammable/explosive vapor-air mixture. Harmful in contact with eyes.

Danger of serious damage to health by prolonged exposure. May cause breathing disorders and lung damage. Will be easily ignited by heat, spark or flames. May cause brain and central nervous system damage. Can cause adverse reproductive effects.

Potential short term health effects

Eyes Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin Blood disorder may occur after prolonged skin contact. Components of the product may be absorbed into the body through the skin.
Inhalation Blood disorder may occur after prolonged inhalation. May cause breathing disorders and lung damage.
Ingestion Blood disorder may occur after ingestion. Do not ingest. May be harmful if swallowed.
Target organs Central nervous system. Blood. Eyes. Liver. Respiratory system. Skin.
Main symptoms Chronic exposure to neurotoxins damages the brain and the central nervous system. Liver 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 if irritation develops or persists.
Skin contact Remove and isolate contaminated clothing and shoes. Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Inhalation If breathing is difficult, give oxygen. Move to fresh air. Get medical attention, if needed.
Ingestion Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Have victim rinse mouth thoroughly with water. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. If ingestion of a large amount does occur, seek medical attention.
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. If you feel unwell, seek medical advice (show the label where possible).

5. FIRE FIGHTING MEASURES

| | |
|---|--|
| Unusual fire & explosion hazards | Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard. Containers may explode when heated. |
| Hazardous combustion products | Irritating and toxic gases or fumes may be released during a fire. Fire may produce irritating, corrosive and/or toxic gases. |
| Suitable extinguishing media | Carbon dioxide (CO ₂). Water spray. Dry chemical. Foam. Water Fog. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do it without risk. In the event of fire, wear self contained breathing apparatus. 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. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in flame. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. 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 | 57 °F (13.9 °C) Pinsky-Martens Closed Cup |

6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------------------|--|
| Evacuation procedures | Keep unnecessary personnel away. Ventilate closed spaces before entering. Stay upwind. Keep out of low areas. |
| Containment procedures | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). 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 | 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 | 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 handle or store near an open flame, heat or other sources of ignition. Vapors may form explosive mixtures with air. Heat only in areas with appropriate exhaust ventilation. Do not breathe gas/fumes/vapor/spray. All equipment used when handling the product must be grounded. Surfaces may become slippery after spillage. |
| Storage | Keep away from heat and sources of ignition. 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. The pressure in sealed containers can increase under the influence of heat. Do not freeze. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

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

| | | |
|----------------|---------|--------------|
| Methyl alcohol | 67-56-1 | 250 Ppm STEL |
|----------------|---------|--------------|

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

| | | |
|----------------|---------|--------------|
| Ethyl alcohol | 64-17-5 | 1000 Ppm TWA |
| Methyl alcohol | 67-56-1 | 200 Ppm TWA |

ACGIH - Threshold Limits Values - TLV Basis - Critical Effects

| | | |
|----------------|---------|-------------------------|
| Ethyl alcohol | 64-17-5 | irritation |
| Methyl alcohol | 67-56-1 | Neuropathy; vision; CNS |

OSHA - Final PELs - Time Weighted Averages (TWAs)

| | | |
|----------------|---------|--|
| Ethyl alcohol | 64-17-5 | 1000 Ppm TWA; 1900 mg/m ³ TWA |
| Methyl alcohol | 67-56-1 | 200 Ppm TWA; 260 mg/m ³ 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.

Hand protection Protective gloves.

| | |
|--|---|
| Eye protection | Wear chemical goggles. Face-shield. |
| Skin and body protection | Wear suitable protective clothing. |
| General | Avoid contact with the skin and the eyes. Structural firefighters protective clothing will only provide limited protection. |
| Engineering measures to reduce exposure | Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. |
| Hygiene measures | When using do not smoke. Handle in accordance with good industrial hygiene and safety practice. |

9. PHYSICAL & CHEMICAL PROPERTIES

| | |
|-------------------------|------------------|
| Boiling point | 172.4 °F (78 °C) |
| Density | 6.9163 lb/gal |
| Form | Liquid. |
| Specific gravity | 0.83 |
| Vapor density | 1.6 |
| Vapor pressure | 50 Mm Hg |
| Viscosity | 5 |

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

| | |
|---------------------------------|--|
| Stability | Risk of ignition. |
| Conditions to avoid | Heat, flames and sparks. Vapors may form explosive mixture with air. |
| Hazardous polymerization | Will not occur. |
| Incompatibility | Acids. Amines. Isocyanates. Strong oxidizing agents. |

11. TOXICOLOGICAL INFORMATION

Local effects Liver toxicity. Blood disorder may occur after ingestion. Risk of serious damage to eyes. Components of the product may be absorbed into the body through the skin.

Component analysis - LD50

NIOSH - Selected LD50s and LC50s

| | | |
|----------------|---------|---|
| Ethyl alcohol | 64-17-5 | Inhalation LC50 Rat: 20000 mg/kg/10H; Inhalation LC50 Mouse: 39 g/m3/4H; Oral LD50 Rat: 7060 mg/kg; Oral LD50 Mouse: 3450 mg/kg |
| Methyl alcohol | 67-56-1 | Inhalation LC50 Rat: 64000 mg/kg/4H; Oral LD50 Rat: 5628 mg/kg; Oral LD50 Mouse: 7300 mg/kg; Dermal LD50 Rabbit: 15800 mg/kg |

Carcinogenicity

ACGIH - Threshold Limits Values - Carcinogens

| | | |
|---------------|---------|---|
| Ethyl alcohol | 64-17-5 | A4 - Not Classifiable as a Human Carcinogen |
|---------------|---------|---|

Reproductivity Possible reproductive hazard.

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 Blood disorder may occur after ingestion. Blood disorder may occur after prolonged inhalation. Blood disorder may occur after prolonged skin contact.

Further information Symptoms may be delayed. Reproductive toxicity.

12. ECOLOGICAL INFORMATION

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

Environmental effects

Ecotoxicity - Freshwater Fish Species Data

| | | |
|----------------|---------|---|
| Ethyl alcohol | 64-17-5 | 96 Hr LC50 rainbow trout (30 days old):12900 mg/L (flow-through);24 Hr LC50 fingerling trout: 11200 mg/L;96 Hr LC50 fathead minnow: 14200 mg/L (flow-through) |
| Methyl alcohol | 67-56-1 | 96 Hr LC50 fathead minnow (28 days old):29400 mg/L (flow-through);96 Hr LC50 rainbow trout (fingerling):13 mg/L;48 Hr LC50 trout: 8000 mg/L |

Ecotoxicity - Microtox Data

| | | |
|----------------|---------|---|
| Ethyl alcohol | 64-17-5 | 5 Min EC50 Photobacterium phosphoreum: 35470 mg/L; 30 min EC50 Photobacterium phosphoreum: 34634 mg/L |
| Methyl alcohol | 67-56-1 | 5 Min EC50 Photobacterium phosphoreum: 43000 mg/L; 15 min EC50 Photobacterium phosphoreum: 40000 mg/L; 25 min EC50 Photobacterium phosphoreum: 39000 mg/L |

13. DISPOSAL CONSIDERATIONS

| | |
|------------------------------|---|
| Waste codes | D001: Waste Flammable material with a flash point <140 F |
| 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. Consult authorities before disposal. If discarded, this product is considered a RCRA ignitable waste, D001. Incinerate the material under controlled conditions in an approved incinerator. Dispose of this material and its container at hazardous or special waste collection point. Dispose in accordance with all applicable regulations. |

14. TRANSPORTATION INFORMATION

Department of Transportation (DOT) Requirements

| | |
|----------------------------------|--------------------------------------|
| Proper shipping name | FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. |
| Hazard class | 3 |
| Special provisions | IB2, T11, TP2, TP27 |
| Packaging exceptions | None |
| Packaging non bulk | 202 |
| Packaging bulk | 243 |
| Quantity limits passenger | 1 L |
| Quantity limits cargo | 5 L |
| Vessel stowage location | B |
| Vessel stowage other | 40 |
| UN number | UN2924 |
| Packaging group | II |
| Labels required | 3, 8 |
| ERG number | 132 |

DOT



International Air Transport Association (IATA) Requirements

| | |
|----------------------------------|-------------------------------------|
| Proper shipping name | FLAMMABLE LIQUID, CORROSIVE, N.O.S. |
| Hazard class | 3 |
| Special provisions | IB2, T11, TP2, TP27 |
| Packaging exceptions | None |
| Packaging non bulk | 202 |
| Packaging bulk | 243 |
| Quantity limits passenger | 1 L |
| Quantity limits cargo | 5 L |
| Vessel stowage location | B |
| Vessel stowage other | 40 |
| UN number | UN2924 |
| Packaging group | II |
| Labels required | 3, 8 |
| Passenger Cargo Pkg Inst | Y305 |
| LQ | 305 |
| Packaging Instructions | 307 |
| Pkg Inst Cargo Only | |

IATA



International Maritime Dangerous Goods (IMDG) Code Requirements

| | |
|---------------------------|-------------------------------------|
| Proper shipping name | FLAMMABLE LIQUID, CORROSIVE, N.O.S. |
| Hazard class | 3 |
| Special provisions | 274 |
| Packaging exceptions | None |
| Packaging non bulk | 202 |
| Packaging bulk | 243 |
| Quantity limits passenger | 1 L |
| Quantity limits cargo | 5 L |
| Vessel stowage location | B |
| Vessel stowage other | 40 |
| Item | FC |
| UN number | UN2924 |
| Packaging group | II |
| Labels required | 3, 8 |
| Hazard ID | 338 |
| Transport Category | 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.
CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA/SARA - Section 313 - Emission Reporting

Methyl alcohol 67-56-1 1.0 % de minimis concentration

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

Ethyl alcohol 64-17-5 200-578-6

Methyl alcohol 67-56-1 200-659-6

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

Ethyl alcohol 64-17-5 Present

Methyl alcohol 67-56-1 Present

Occupational safety and health administration (OSHA)

29 CFR 1910.1200 Yes
hazardous chemical

CERCLA (superfund) reportable quantity

Methyl alcohol: 5000.0000

Superfund amendments and reauthorization act of 1986 (SARA)

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

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

NFPA ratings Health: 0
Flammability: 3
Instability: 0

International regulations

Canada - 2004 NPRI (National Pollutant Release Inventory)

Ethyl alcohol 64-17-5 Part 5 Substance

Methyl alcohol 67-56-1 Part 1, Group 1 Substance; Part 5 Substance

Canada - WHMIS - Ingredient Disclosure List

Ethyl alcohol 64-17-5 0.1 % (English Item 684, French Item 805)

Methyl alcohol 67-56-1 1 % (English Item 1012, French Item 183)

State regulations

California - Proposition 65 - Developmental Toxicity

Ethyl alcohol 64-17-5 developmental toxicity, initial date 10/1/87 (when in alcoholic beverages)

Massachusetts - Right To Know List

Ethyl alcohol 64-17-5 Teratogen

Methyl alcohol 67-56-1 Present

New Jersey - Right to Know Hazardous Substance List

Ethyl alcohol 64-17-5 sn 0844

Methyl alcohol 67-56-1 sn 1222

Pennsylvania - RTK (Right to Know) List

Ethyl alcohol 64-17-5 Present

Methyl alcohol 67-56-1 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

12-May-2008

MSDS sections updated

Disposal Considerations: Disposal instructions