



# MATERIAL SAFETY DATA SHEET

Flammability: 0

Health: 3\*

Physical hazard: 0

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name PES 182 Anti Abrasion Beaded Wearing Compound - Hardener/Side B  
Version # 3.0  
Revision date January 2011  
Company information Plant Equipment & Services, Inc.  
5401 Highway 21 West  
Bryan, TX 77803 979-779-8700 www.pes-solutions.com  
Emergency Chemtrec (800) 424-9300  
International (703) 527-3887

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Component(s)	CAS #	Percent
Kaolin	1332-58-7	< 60
Aluminum oxide	1344-28-1	< 20
Benzyl Alcohol	100-51-6	< 20
Iron oxide	1309-37-1	< 10
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	< 10
Silica, fused	60676-86-0	< 10
Titanium dioxide	13463-67-7	< 10
Triethylenetetramine	112-24-3	< 10
Non-hazardous and other components below reportable levels		> 10

## 3. HAZARDS IDENTIFICATION

Emergency overview May cause sensitization by inhalation. 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 cancer. May cause breathing disorders and lung damage. May cause liver damage. Causes skin and eye burns.

Potential short term health effects

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

Inhalation Toxic in contact with skin. Causes skin burns.

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

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

Main symptoms Eyes. Kidney. Liver. Lungs. Respiratory system. Skin. Stomach.  
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. Keep victim under observation.

## 5. FIRE FIGHTING MEASURES

General fire hazards Not a fire hazard.

Suitable extinguishing media Carbon dioxide (CO<sub>2</sub>). Alcohol foam. Water spray. Water Fog. Polymer foam. Dry chemical powder.

Fire fighting equipment/instructions 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.

## 6. ACCIDENTAL RELEASE MEASURES

Evacuation procedures Ventilate closed spaces before entering. Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material. Stay upwind. Keep out of low areas. Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.

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. Use personal protective equipment. 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. 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. Wear personal protective equipment. Handle and open container with care. Surfaces may become slippery after spillage.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep container tightly closed. Use care in handling/storage. 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)

Aluminum oxide	1344-28-1	10 Mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica)
Iron oxide	1309-37-1	5 Mg/m3 TWA (dust and fume, as Fe)
Kaolin	1332-58-7	2 Mg/m3 TWA (respirable fraction, particulate matter containing no asbestos and < 1% crystalline silica)
Silica, fused	60676-86-0	0.1 Mg/m3 TWA (respirable fraction)
Titanium dioxide	13463-67-7	10 Mg/m3 TWA

ACGIH - Threshold Limits Values - TLV Basis - Critical Effects

Aluminum oxide	1344-28-1	lung; irritation
Iron oxide	1309-37-1	Pneumoconiosis (dust and fume, as Fe)
Kaolin	1332-58-7	pneumoconiosis
M-Xylene-.alpha., .alpha.'-diamine 1477-55-0		irritation; blood
Silica, fused	60676-86-0	lung fibrosis
Titanium dioxide	13463-67-7	lung

OSHA - Final PELs - Time Weighted Averages (TWAs)

Aluminum oxide	1344-28-1	15 Mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Iron oxide	1309-37-1	10 Mg/m3 TWA
Kaolin	1332-58-7	15 Mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Titanium dioxide	13463-67-7	15 Mg/m3 TWA (total dust)

### 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 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).

**General** Structural firefighter's protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Avoid contact with the skin and the eyes. Wear suitable protective equipment.

**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. Handle in accordance with good industrial hygiene and safety practice for diagnostics.

## 9. PHYSICAL & CHEMICAL PROPERTIES

Density 14.0667 lb/gal

Form Liquid.

Specific gravity 1.688

## 10. CHEMICAL STABILITY & REACTIVITY INFORMATION

**Stability** Stable at normal conditions. No hazards to be especially mentioned.

**Incompatibility** Amines. Caustics. Isocyanates. Peroxides. 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
Triethylenetetramine	112-24-3	Oral LD50 Rat: 2500 mg/kg; Oral LD50 Mouse: 1600 mg/kg; Dermal LD50 Rabbit: 805 mg/kg

Sensitization May cause sensitization by inhalation.

Carcinogenicity Cancer hazard.

ACGIH - Threshold Limits Values - Carcinogens

Aluminum oxide	1344-28-1	A4 - Not Classifiable as a Human Carcinogen
Iron oxide	1309-37-1	A4 - Not Classifiable as a Human Carcinogen (dust and fume, as Fe)
Kaolin	1332-58-7	A4 - Not Classifiable as a Human Carcinogen
Titanium dioxide	13463-67-7	A4 - Not Classifiable as a Human Carcinogen

Chronic toxicity Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged or repeated exposure may cause lung injury.

Sub chronic 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 Fish Species Data

Benzyl Alcohol Ecotoxicity - Microtox Data	100-51-6	96 Hr LC50 fathead minnow: 460 mg/L (Static); 96 Hr LC50 bluegill: 10 mg/L (Static)
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
Ecotoxicity - Water Flea Data		
Benzyl Alcohol	100-51-6	48 Hr EC50 water flea: 23 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

Not regulated as dangerous goods.

International Air Transport Association (IATA) Requirements

Not regulated as dangerous goods.

International Maritime Dangerous Goods (IMDG) Code Requirements

Not regulated as dangerous goods.

## 15. REGULATORY INFORMATION

### US federal regulations

#### CERCLA/SARA - Section 313 - Emission Reporting

Aluminum oxide	1344-28-1	1.0 % de minimis concentration (fibrous form only)
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Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

Aluminum oxide	1344-28-1	215-691-6
Benzyl Alcohol	100-51-6	202-859-9
Iron oxide	1309-37-1	215-168-2
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	216-032-5
Silica, fused	60676-86-0	262-373-8
Titanium dioxide	13463-67-7	236-675-5
Triethylenetetramine	112-24-3	203-950-6

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

Aluminum oxide	1344-28-1	Present
Benzyl Alcohol	100-51-6	Present
Iron oxide	1309-37-1	Present
Kaolin	1332-58-7	XU
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	Present
Silica, fused	60676-86-0	Present
Titanium dioxide	13463-67-7	Present
Triethylenetetramine	112-24-3	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 - No

### NFPA ratings

Health: 3  
Flammability: 0  
Instability: 0

### International regulations

#### Canada - 2004 NPRI (National Pollutant Release Inventory)

Aluminum oxide	1344-28-1	Part 1, Group 1 Substance (fibrous form)
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#### Canada - WHMIS - Ingredient Disclosure List

Aluminum oxide	1344-28-1	1 % (English Item 44, French Item 195)
Benzyl Alcohol	100-51-6	1 % (English Item 169, French Item 170)
Iron oxide	1309-37-1	1 % (English Item 762, French Item 1327)
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	1 % (English Item 1697, French Item 1725)
Silica, fused	60676-86-0	1 % (English Item 1404, French Item 1487)
Triethylenetetramine	112-24-3	0.1 % (English Item 1629, French Item 1669)

## State regulations

### Massachusetts - Right To Know List

Aluminum oxide	1344-28-1	Present
Benzyl Alcohol	100-51-6	Present
Iron oxide	1309-37-1	Present
Kaolin	1332-58-7	Present
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	Present
Silica, fused	60676-86-0	Present
Titanium dioxide	13463-67-7	Present
Triethylenetetramine	112-24-3	Present

### New Jersey - Right to Know Hazardous Substance List

Aluminum oxide	1344-28-1	sn 2891
Iron oxide	1309-37-1	sn 1036
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	sn 1320
Silica, fused	60676-86-0	sn 1656
Titanium dioxide	13463-67-7	sn 1861
Triethylenetetramine	112-24-3	sn 1908

### Pennsylvania - RTK (Right to Know) List

Aluminum oxide	1344-28-1	Environmental hazard
Benzyl Alcohol	100-51-6	Present
Iron oxide	1309-37-1	Present
Kaolin	1332-58-7	Present
M-Xylene-.alpha., .alpha.'-diamine	1477-55-0	Present
Titanium dioxide	13463-67-7	Present
Triethylenetetramine	112-24-3	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 guidance for safe handling, use, processing, storage, transportation, disposal and release.

### Issue date

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