



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 April 11, 2018
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 (CO₂). 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) |
|----------------|-----------|--|

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) |
|----------------|-----------|--|

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.

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