1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Pro Pot Perm Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #</td>
<td>Mixture</td>
</tr>
<tr>
<td>Product use</td>
<td>Regeneration of greensand iron filters</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Pro Products LLC</td>
</tr>
<tr>
<td></td>
<td>7201 Engle Road</td>
</tr>
<tr>
<td></td>
<td>Fort Wayne, IN 46804-5875 US</td>
</tr>
<tr>
<td></td>
<td>Phone 260-483-2519</td>
</tr>
<tr>
<td></td>
<td>Emergency Phone: 1-800-424-9300 (CHEMTREC)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>LEGEND HMIS/NFPA</th>
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<tbody>
<tr>
<td>Health</td>
<td></td>
</tr>
<tr>
<td>/</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
<tr>
<td>Minimal</td>
<td>0</td>
</tr>
<tr>
<td>Slight</td>
<td>1</td>
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<tr>
<td>Moderate</td>
<td>2</td>
</tr>
<tr>
<td>Serious</td>
<td>3</td>
</tr>
<tr>
<td>Severe</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Hazards Identification

**Emergency overview**

DANGER

CAUSES EYE BURNS. CAUSES SKIN BURNS.

OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.

**Potential short term health effects**

- **Routes of exposure**
  - Eye, Skin contact, Inhalation, Ingestion.
- **Eyes**
  - May cause chemical burns. May cause blindness.
- **Skin**
  - May cause chemical burns.
- **Inhalation**
  - Inhalation of dusts may cause respiratory irritation.
- **Ingestion**
  - Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Target organs**

Skin. Eyes. Respiratory system.

**Chronic effects**

Long-term inhalation of dust concentrations higher than recommended permissible exposure limits may cause delayed lung injury. Prolonged or repeated exposure may lead to liver or kidney damage or central nervous system effects. Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms**

Symptoms may include redness, edema, drying, defatting and cracking of the skin. The product may cause burns to eyes, skin and mucous membranes.

**OSHA Regulatory Status**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential environmental effects**

See section 12.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>7722-64-7</td>
<td>60 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

**First aid procedures**

- **Eye contact**
  - Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
- **Skin contact**
  - Brush away excess of dry material. Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
- **Inhalation**
  - If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion
Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

General advice
If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties
Not flammable by WHMIS/OSHA criteria.

Extinguishing media
Suitable extinguishing media
Water.

Unsuitable extinguishing media
Not available

Protection of firefighters
Specific hazards arising from the chemical
Container may explode in heat of fire. May decompose spontaneously if exposed to temperatures above 150°C. Increases flammability of combustible materials.

Protective equipment for firefighters
Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products
May include and are not limited to: Oxides of manganese. Oxygen.

Explosion data
Sensitivity to mechanical impact
Not available

Sensitivity to static discharge
Not available

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. 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
Do not discharge into lakes, streams, ponds or public waters.

Methods for containment
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up
Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Rinse area with water. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Large Spills: Wet down with water and dike for later disposal. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling
Use good industrial hygiene practices in handling this material. Avoid contact with eyes and skin. Keep from contact with clothing and other combustible materials. Avoid dust formation. Wash thoroughly after handling.

Storage
Keep out of reach of children. Keep away from heat, open flames or other sources of ignition. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Exposure Limits</th>
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</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>ACGIH-TLV Not established</td>
</tr>
<tr>
<td></td>
<td>OSHA-PEL Not established</td>
</tr>
</tbody>
</table>

Engineering controls
Use only under good ventilation conditions or with respiratory protection. Local exhaust recommended.
Personal protective equipment

Eye / face protection
Chemical splash goggles.

Hand protection
Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection
As required by employer code. Rubber apron recommended.

Respiratory protection
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystals</td>
</tr>
<tr>
<td>Color</td>
<td>Dark Metallic Purple</td>
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<tr>
<td>Form</td>
<td>Solid</td>
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<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
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<tr>
<td>Physical state</td>
<td>Solid</td>
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<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
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</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
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<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
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<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
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<tr>
<td>Flash point</td>
<td>None</td>
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<tr>
<td>Auto-ignition temperature</td>
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<td>Flammability limits in air, lower, % by volume</td>
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<tr>
<td>Flammability limits in air, upper, % by volume</td>
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<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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<td>Specific gravity</td>
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<td>Octanol/water coefficient</td>
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<td>Solubility (H2O)</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Percent volatile</td>
<td>0</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

Reactivity
This product may react with acids. This product may react with oxidizing agents.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Chemical stability
Stable, however, may decompose if heated.

Conditions to avoid
Heat, open flames, static discharge, sparks and other ignition sources. Do not mix with other chemicals.

Incompatible materials

Hazardous decomposition products
May include and are not limited to: Oxides of manganese. Oxygen.

11. Toxicological Information

Component analysis - LC50

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Component analysis - Oral LD50

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>1090 mg/kg rat</td>
</tr>
</tbody>
</table>
Effects of acute exposure

**Eye**
May cause chemical burns. May cause blindness.

**Skin**
May cause chemical burns.

**Inhalation**
Inhalation of dusts may cause respiratory irritation.

**Ingestion**
Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Sensitization**
Non-hazardous by WHMIS/OSHA criteria.

**Chronic effects**
Non-hazardous by WHMIS/OSHA criteria.

**Carcinogenicity**
Not classified or listed by IARC, NTP, OSHA and ACGIH.

**Mutagenicity**
Non-hazardous by WHMIS/OSHA criteria.

**Reproductive effects**
Non-hazardous by WHMIS/OSHA criteria.

**Teratogenicity**
Non-hazardous by WHMIS/OSHA criteria.

**Name of Toxicologically Synergistic Products**
Not available

### 12. Ecological Information

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

**Ecotoxicity - Freshwater Fish - Acute Toxicity Data**

Potassium permanganate 7722-64-7

96 Hr LC50 Carassius auratus: 3.3-3.93 mg/L [static];
96 Hr LC50 Cyprinus carpio: 2.97-3.11 mg/L;
96 Hr LC50 Cyprinus carpio: 3.16-3.77 mg/L;
96 Hr LC50 Lepomis macrochirus: 2.3 mg/L [flow-through];
96 Hr LC50 Lepomis macrochirus: 1.8-5.6 mg/L [static];
96 Hr LC50 Lepomis macrochirus: 2.7 mg/L;
96 Hr LC50 Oncorhynchus mykiss: 1.08-1.38 mg/L;
96 Hr LC50 Oncorhynchus mykiss: 0.769-1.27 mg/L [static]

**Persistence / degradability**
Not available

**Bioaccumulation / accumulation**
Not available

**Mobility in environmental media**
Not available

**Environmental effects**
Harmful to aquatic life.

**Aquatic toxicity**
Not available

**Partition coefficient**
Not available

**Chemical fate information**
Not available

**Other adverse effects**
Not available

### 13. Disposal Considerations

**Disposal instructions**
Review federal, state/provincial, and local government requirements prior to disposal.

**Waste from residues / unused products**
Not available

**Contaminated packaging**
Not available

### 14. Transport Information

**U.S. Department of Transportation (DOT)**

Basic shipping requirements:

**Proper shipping name**
Potassium permanganate, mixture

**Hazard class**
5.1

**UN number**
UN1490

**Packing group**
II

**Additional information:**

**Special provisions**
IB8, IP2, IP4, T3, TP33

**Packaging exceptions**
152

**ERG number**
140
Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

Proper shipping name: POTASSIUM PERMANGANATE
Hazard class: 5.1
UN number: UN1490
Packing group: II

15. Regulatory Information

Canadian federal regulations: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List
Potassium permanganate 7722-64-7 1%

WHMIS status: Controlled
WHMIS classification: Class C - Oxidizing Material, Class E - Corrosive Material
WHMIS labeling:

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical: Yes

US Federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Potassium permanganate 7722-64-7 100 Lb final RQ; 45.4 kg final RQ

CERCLA (Superfund) reportable quantity:
Potassium permanganate: 100.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance: No
Section 311 hazardous chemical: Yes
Clean Water Act (CWA): Hazardous substance
State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Inventory name</th>
<th>Country(s) or region</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Substances List (DSL)</td>
<td>Canada</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-Domestic Substances List (NDSL)</td>
<td>Canada</td>
<td>No</td>
</tr>
<tr>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>United States &amp; Puerto Rico</td>
<td>Yes</td>
</tr>
</tbody>
</table>

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

16. Other Information

Disclaimer

The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

Issue date
21-Dec-2012

Effective date
15-Dec-2012

Expiry date
15-Dec-2015

Prepared by
Dell Tech Laboratories Ltd. (519) 858-5021

Other information
For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.