US - OSHA SAFETY DATA SHEET

Issue Date 04-Sep-2019 **Revision Date** Not applicable. **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name BPS Panel filter

Other means of identification

Synonyms Not available.

Recommended use of the chemical and restrictions on use

Recommended Use Not available.
Uses Advised Against Not available.

Details of the supplier of the safety data sheet

Manufacturer Address
Hamilton Thorne, Inc.
100 Cummings Center, Suite 465E
Beverly, MA 01915 U.S.A.
www.hamiltonthorne.com, info@hamiltonthorne.com

Emergency telephone number

Company Phone Number 978.921.2050, 800.323.0503
24 Hour Emergency Phone Number Not available.
Emergency Telephone Not available.

2. HAZARDS IDENTIFICATION

Classification

Health Hazards
Not classified.

Physical Hazards
Not classified.

OSHA Regulatory Status

This product is considered an article under normal conditions of use and a Safety Data Sheet is not required per OSHA Hazard Communication Standard 29 CFR 1910.1200, Revision 3.

Label elements

Emergency Overview

Normal precautions common to safe manufacturing practice should be followed in handling and storage.

Appearance Not available. **Physical State** Solid. **Odor** Not applicable.

Hazards not otherwise classified (HNOC)
Not available.

Other information
Potassium permanganate: Strong oxidizing agent.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Common name BPS panel filters.
Synonyms Not available.

Chemical Name	CAS No.	Weight-%
Potassium permanganate	7722-64-7	Properietary

*Note: Non-hazardous chemical ingredients are not listed

4. FIRST AID MEASURES

First aid measures

Eye Contact In case of eye contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists.

Skin Contact In case of contact, remove contaminated clothing. Immediately wash exposed area with soap and water. Obtain medical attention if skin reaction occurs or irritation / symptoms persist.

Inhalation Immediately move exposed subject to fresh air. If not breathing, provide artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention immediately.

Ingestion In case of accidental ingestion, wash out mouth with copious amounts of water. Seek medical attention immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

Self-Protection of the First Aider Do not use mouth-to-mouth methods if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or another proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Symptoms Ingestion of potassium permanganate is known to cause burns and ulcerations of the mouth, esophagus and stomach. It may result in damage to the upper gastrointestinal tract.

Indication of any immediate medical attention and special treatment needed

Note to Physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), extinguishing powder or water spray.

Unsuitable Extinguishing Media Not available.

Specific hazards arising from the chemical
Product not combustible but will accelerate the burning of combustible material.

Hazardous Combustion Products Not available.

Explosion data
Sensitivity to Mechanical Impact Not applicable.
Sensitivity to Static Discharge None known.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Wear appropriate personal protective equipment (see Section 8). Avoid generation of dust during clean-up. Keep personnel away from the clean-up area.

Environmental precautions

Environmental Precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment All spills should be handled according to site requirement and based on precautions cited in the SDS. Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Wipe up with absorbent material (e.g. cloth) for disposal. In case of liquids, use proper absorbent materials. for laboratories and small-scale operations, incidental spills within a hood or enclosure should be cleaned using a HEPA filtered vacuum or wet cleaning methods as appropriate. For large dry or liquid spills or those spills outside enclosure or hood, appropriate emergency response personnel should be notified. In manufacturing and large-scale operations, HEPA vacuuming prior to wet mopping or cleaning is required.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Avoid breathing dust. Avoid dust generation. Keep containers adequately sealer during material transfer, transport or when not in use. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry, well-ventilated area.

Packaging materials Filter sealed in plastic bad, placed in corrugated carton for shipping purposes and palletized with stretch wrap to prevent damage during transport.

Incompatible materials Alcohol, bromides, iodides, charcoal, organic substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, contains the following hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium permanganate	TWA: 0.02 mg/m^3 Mn respirable	(vacated) Ceiling: 5 mg/m^3	IDLH: 500 mg/m^3 Mn

	particulate matter TWA: 0.1 mg/m^3 Mn inhalable particulate matter	Ceiling: 5 mg/m^3 Mn	TWA: 1 mg/m^3 Mn STEL: 3 mg/m^3 Mn

Appropriate engineering controls

Engineering Controls The health hazard risks of handling this material are dependent on factors, such as physical form and quantity. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

Individual protection measures, such as personal protective equipment

Eye/Face Protection In laboratory, medical or industrial settings, safety glasses with side shields are highly recommended. The use of goggles or full-face protection may be required depending on the industrial exposure setting. Contact a health and safety professional for specific information.

Skin and Body Protection In laboratory, medical or industrial settings, gloves and lab coats are recommended. The use of additional personal protective equipment such as shoe coverings, gauntlets, hoods or head coverings may be necessary. Contact a health and safety professional for specific information.

Respiratory Protection Not required for normal handling of packed product. Respirators may be required for certain laboratory and manufacturing tasks if engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (where the exposure limits have not been established). Workplace risk assessments should be completed before specifying and implementing respirator usage. All respirators must conform to specifications for efficiency and performance indicated by OSHA Standard 29 CFR 1910.134.

General Hygiene Considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Solid.		
Appearance	Not available.	**Odor**	Not applicable.
Color	Not available.	**Odor Threshold**	Not available.

Property	**Values**	**Remarks**
pH	Not available.	
Melting Point/Freezing Point	Not available.	
Boiling Point/Boiling Range	Not available.	
Flash Point	Not available.	
Evaporation Rate	Not available.	
Flammability (solid, gas)	Not available.	
Flammability Limit in Air		
Upper Flammability Limit:	Not available.	
Lower Flammability Limit:	Not available.	
Vapor Pressure	Not available.	
Vapor Density	Not available.	
Specific Gravity	Not available.	
Water Solubility	Not available.	
Solubility in Other Solvents	Not available.	

Partition Coefficient	Not available.
Autoignition Temperature	Not available.
Decomposition Temperature	Not available.
Kinematic Viscosity	Not available.
Dynamic Viscosity	Not available.
Explosive Properties	Not available.
Oxidizing Properties	Not available.

Other information

Softening Point	Not available.
Molecular Weight	Not available.
VOC Content (%)	Not available.
Density	Not available.
Bulk Density	Not available.

10. STABILITY AND REACTIVITY

Reactivity
Explosive reactions may occur if brought in contact with organic or other readily oxidizable substances.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to avoid
None known.

Incompatible materials
Alcohol, bromides, iodides, charcoal, organic substances.

Hazardous decomposition products
Not available.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity In severe cases, systemic effects including disseminated intravascular coagulation (DIC), methemoglobinemia, hepatitis, pancreatitis, and acute renal failure may occur and are possibly caused by free radical generation. Chronic ingestion may cause neurotoxicity, including paresthesias, tremor, and Parkinsonism due to manganese toxicity. Neurotoxicity from manganese results from dopamine depletion and production of the neurotoxins, dopamine quinone and hydrogen peroxide.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50	Intravenous LD50
Potassium permanganate	= 750 mg/kg (Rat)	-	-	-

Information on toxicological effects

Symptoms Ingestion of potassium permanganate is known to cause burns and ulcerations of the mouth, esophagus and stomach. It may result in damage to the upper gastrointestinal tract

Delayed and immediate effects as well as chronic effects from short- and long-term exposure

Skin Corrosion/Irritation Potassium permanganate: Irritating to skin.

Serious Eye Damage/Eye Irritation Potassium permanganate: Irritating to eyes.

Sensitization No data available.

Germ Cell Mutagenicity Potassium permanganate: Reported to have a variety of effects in various genetic test systems. It was reported to be positive and negative in the B. subtilis rec assay. It was active in the E. coli pol A assay. The latter two assays measure DNA damage and not necessarily heritable mutations. It was not mutagenic in strain TA102 in the Ames Salmonella assay.

Carcinogenicity No data available.

Reproductive Toxicity Potassium permanganate: Known to decrease fertility. A study described increase in post implantation losses at 100 and 500 mg/kg/day on gestation days 5-19. Maternal toxicity was observed at these dose levels. Decreased fetal weight and delayed ossification were observed at 20 mg/kg/day, a dose level that was not maternally toxic. No other adverse fetal effects were observed at any dose level. In another study in rats, potassium permanganate was given by gavage to male and female rats at dose levels up to 320 mg/kg/day prior to mating, and through mating, pregnancy, and weaning. Spermatogenesis was abnormal and fertility was decreased in parental males at dose levels above 80 mg/kg/day.

STOT - Single Exposure Not available.

STOT - Repeated Exposure Not available.

Aspiration Hazard Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium permanganate		2.97 - 3.11: 96 h Cyprinus carpio mg/L LC50 3.16 - 3.77: 96 h Cyprinus carpio mg/L LC50 2.3: 96 h Lepomis macrochirus mg/L LC50 flow-through 1.8 - 5.6: 96 h Lepomis macrochirus mg/L LC50 static 2.7: 96 h Lepomis macrochirus mg/L LC50 1.08 - 1.38: 96 h Oncorhynchus mykiss mg/L LC50 0.769 - 1.27: 96 h Oncorhynchus mykiss mg/L LC50 static 3.3 - 3.93: 96 h Carassius auratus mg/L LC50 static		

Persistence and degradability
Not available.

Bioaccumulation
Not available.

Mobility
Not available.

Other adverse effects
Not available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number Not available.

California Hazardous Waste Codes Not available.

This product contains the following substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Potassium permanganate	Toxic Corrosive Ignitable

14. TRANSPORT INFORMATION

DOT Not regulated.

IATA Not regulated.

IMDG Not regulated.

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Potassium permanganate		90 - 100%	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium permanganate	100 lb	–	–	X

CERCLA

This material, as supplied, contains the following substances regulated as a hazardous substance under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium permanganate	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following substances regulated by state right-to-know regulations.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium permanganate	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable.

16. OTHER INFORMATION

Issue Date 04-Sep-2019
Revision Date Not applicable.
Revision Note New SDS.

Disclaimer

Hamilton and Thorne, Inc. considers that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. The information contained herein is designated only as guidance for safe handling, storage and use of the substance and is not a specification nor does it guarantee any specific properties. Only competent personnel, within a controlled environment should handle all chemicals. Hamilton and Thorne, Inc. shall not be held liable for any loss, injury or damage from contact with the product.

End of Safety Data Sheet