

## SAFETY DATA SHEET

Preparation Date: 03/25/2015

Revision date 1/21/2019

Revision Number: G2

### 1. Identification

#### Product identifier

**Product code:** P-445  
**Product Name:** POTASSIUM PERMANGANATE, 0.1 N AQUEOUS SOLUTION

#### Other means of identification

**Synonyms:** No information available  
**CAS #:** Mixture  
**RTECS #** Not available  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Label elements

Not classified

#### Hazards not otherwise classified (HNOC)

Not Applicable

#### Other hazards

Harmful to aquatic life with long lasting effects  
Harmful to aquatic life

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Water	7732-18-5	99.7
Potassium Permanganate	7722-64-7	0.3

### 4. FIRST AID MEASURES

#### First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

#### Most important symptoms and effects, both acute and delayed

**Symptoms** Health injuries are not known or expected under normal use

#### Indication of any immediate medical attention and special treatment needed

**Notes to Physician:** Treat symptomatically.

#### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

**Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

**Unsuitable Extinguishing Media:** No information available.

#### Specific hazards arising from the chemical

**Hazardous combustion products** No information available.

**Specific hazards** No information available.

## **Special Protective Actions for Firefighters**

### **Specific Methods:**

No information available

### **Special Protective Equipment 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:**

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Stop leak if you can do it without risk. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

#### **Incompatible Materials:**

Acids  
Metals  
Powdered metals  
Reducing agents  
Ammonia  
Ammonium salts  
Alcohols

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

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## National occupational exposure limits

### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Water	7732-18-5	None	None	None	None
Potassium Permanganate	7722-64-7	None	None	0.02 mg/m <sup>3</sup> TWA (respirable fraction, as Mn) 0.1 mg/m <sup>3</sup> TWA (inhalable fraction, as Mn) Listed under manganese inorganic compounds	None

### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Potassium Permanganate	7722-64-7	0.2 mg/m <sup>3</sup> TWA (as Mn) Listed under manganese inorganic compounds	0.2 mg/m <sup>3</sup> TWA (as Mn) Listed under manganese inorganic compounds	0.02 mg/m <sup>3</sup> TWA (respirable fraction, as Mn) 0.1 mg/m <sup>3</sup> TWA (inhalable fraction, as Mn) Listed under manganese inorganic compounds	0.2 mg/m <sup>3</sup> TWAEV (as Mn) Listed under manganese inorganic compounds

### Australia and Mexico

Component	CAS No	Australia	Mexico
Water	7732-18-5	None	None
Potassium Permanganate	7722-64-7	None	0.2 mg/m <sup>3</sup> TWA (as Mn) Listed under manganese inorganic compounds

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

##### Eye protection:

Goggles or Safety glasses with side-shields.

##### Skin and body protection:

Chemical resistant apron  
Gloves  
Long sleeved clothing

##### Respiratory protection:

Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of

high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> Clear.	<b>Color:</b> Dark purple.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula</b> No information available
<b>Molecular/Formula weight (g/mole):</b> No information available	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> No information available
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> The lowest known value is 100°C/212°F (Water)	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> 1.0
<b>Specific gravity:</b> The only known value is 1 (water)	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> The highest known value is 0.62 (water)	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Easily soluble in cold water Easily soluble in hot water	

## 10. STABILITY AND REACTIVITY

### Reactivity

May react with reducing agents, acids, formaldehyde, ammonia, ammonium salts, ammonium nitrate, dimethylformamide, glycerol, combustible materials, alcohols, arsenites, bromides, iodides, charcoal, organic materials, ferrous or mercurous salts, hypophosphites, hyposulfites, sulfites, peroxides, oxalates, ethylene glycol, metal powders, phosphorus, sulfur

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Incompatible materials.

**Incompatible Materials:** Acids

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Metals  
Powdered metals  
Reducing agents  
Ammonia  
Ammonium salts  
Alcohols

**Hazardous decomposition products:** No information available.

**Other Information Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Eyes. Skin. Ingestion.

### Acute Toxicity

#### Component Information

Water	
CAS No	7732-18-5

**LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

Potassium Permanganate	
CAS No	7722-64-7

**LD50/oral/rat** = 750 mg/kg Oral LD50 Rat (LOLI, RTECS, European Chemicals Bureau IUCLID dataset); 1090 mg/kg (European Chemicals Bureau IUCLID dataset)  
**LD50/oral/mouse** = 2157 mg/kg (RTECS and European Chemicals Bureau IUCLID dataset)  
750 mg/kg (RTECS and European Chemicals Bureau IUCLID dataset)  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = 750 mg/kg Oral LD50  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 1151 mg/kg Oral LD50 Guinea Pig  
100 mg/kg oral LDL woman  
135-143 oral LDL human

#### Product Information

**LD50/oral/rat = Value - Acute Tox** = No information available

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**LD50/oral/mouse =**  
**Value - Acute Tox Oral =** No information available

**LD50/dermal/rabbit**  
**Value - Acute Tox =** No information available

**LD50/dermal/rat**  
**VALUE - Acute Tox Dermal =** No information available

**LC50/inhalation/rat**  
**VALUE-Vapor =** No information available  
**VALUE-Gas =** No information available  
**VALUE-Dust/Mist =** No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor =** No information available  
**VALUE - Gas =** No information available  
**VALUE - Dust/Mist =** No information available

**Symptoms**

**Skin Contact:** May cause skin irritation. It can cause brown stains on the skin.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause irritation of respiratory tract.

**Ingestion** May cause digestive (gastrointestinal) tract irritation. May cause nausea. May cause vomiting. Contains potassium permanganate which if ingested in large amounts, may affect the cardiovascular system, urinary system (kidneys), liver, and central nervous system (somnolence, dizziness, tremor, fatigue).

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** For Potassium Permanganate:  
Mutations in microorganisms  
Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium Permanganate	7722-64-7	Not listed	Group A4- Not Classifiable as a Human Carcinogen (listed under manganese,	Not listed	Not listed	Not listed	Not listed

			inorganic compounds)				
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ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** No data is available

**Reproductive Effects:** For Potassium Permanganate:  
May cause adverse reproductive effects based on animal data  
From RTECS and ReproTox: Reproductive Effects Data: oral, mouse (Paternal Effects: Spermatogenesis). In vivo experiments in mice using high concentrations of Potassium Permanganate reported abnormal sperm head formation, interpreted by some authors as suggesting alteration in the genetic control of spermatogenesis

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** Central nervous system.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Potassium Permanganate - 7722-64-7*

**Fish**  
0.3-0.6 mg/L LC50 Oncorhynchus mykiss 96 h  
0.769-1.27 mg/L LC50 Oncorhynchus mykiss 96 h static 1  
1.08-1.38 mg/L LC50 Oncorhynchus mykiss 96 h 1  
1.8-5.6 mg/L LC50 Lepomis macrochirus 96 h static 1  
2.3 mg/L LC50 Lepomis macrochirus 96 h flow-through 1  
2.7 mg/L LC50 Lepomis macrochirus 96 h 1  
2.97-3.11 mg/L LC50 Cyprinus carpio 96 h 1  
3.16-3.77 mg/L LC50 Cyprinus carpio 96 h 1  
3.3-3.93 mg/L LC50 Carassius auratus 96 h static 1

**Crustacea**  
0.84 mg/L LC50 Daphnia magna 48 h

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**



## Disposal Methods

### **Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

### **Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	7732-18-5	None	None	None	None
Potassium Permanganate	7722-64-7	None	None	None	None

## 14. TRANSPORT INFORMATION

### **DOT**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Class** No information available  
**Packing group:** No information available  
**Emergency Response Guide Number** No information available  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** No Information available  
**Symbol(s):** No information available  
**Description:** No information available

### **TDG (Canada)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No Information available  
**Description:** No information available

### **ADR**

**UN Number** Not regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Packing group** No information available  
**Subsidiary Risk:** No information available

### **IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No information available

### **RID**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available

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**Subsidiary Risk:** No information available  
**Packing group** No information available

**ICAO (air)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Subsidiary Risk:** No information available  
**Packing group** No information available  
**Precautionary Statements - Response** IF exposed or concerned  
**Special Provisions** No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
Water	7732-18-5	PresentACTIVE	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Potassium Permanganate	7722-64-7	PresentACTIVE	Present KE-29180	Present	Present (1)-446	Present	Present	Present 231-760-3

**U.S. Regulations**

*Potassium Permanganate*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 1578  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Minnesota - Hazardous Substance List:** Present (as Manganese compounds)  
**New York Release Reporting - List of Hazardous Substances:** 100 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** 100lbfinal RQ 45.4kgfinal RQ  
**California Directors List of Hazardous Substances:** Present  
**FDA - Direct Food Additives** 21 CFR 172.892 (<=0.2%)  
**FDA - 21 CFR - Total Food Additives** 172.892, 175.105, 178.1010  
**- List Sourced from EAFUS**

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:

Water	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
Potassium Permanganate	7722-64-7	Not Listed	Not Listed	Not Listed	Not Listed

#### CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Water	7732-18-5	None	None	None	None	None
Potassium Permanganate	7722-64-7	100 lb final RQ 45.4 kg final RQ	None	None	Listed under Manganese compounds	1%

#### U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	7732-18-5	Not Applicable	Not Applicable
Potassium Permanganate	7722-64-7	Not Applicable	Not Applicable

#### Canada

##### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component  
Water  
7732-18-5 ( 99.7 )  
Potassium Permanganate  
7722-64-7 ( 0.3 )

WHMIS 2015 Hazard Classification  
Not a dangerous product according to HPR classification criteria

Oxidizing solids - Category 2: H272 May intensify fire, oxidizer.;  
Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.;  
Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.;  
Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

#### DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Potassium Permanganate	7722-64-7	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Potassium Permanganate	7722-64-7	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Potassium Permanganate	7722-64-7	Not listed

## EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Potassium Permanganate	7722-64-7	Oxidizing solids - Ox. Sol. 2: H272 May intensify fire, oxidizer.; Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.; Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.025-002-00-9

EU - CLP (1272/2008)

### R-phrase(s)

### S -phrase(s)

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Potassium Permanganate	7722-64-7	Xn; R22 N; R50-53 O; R8	No information	S2 S60 S61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

### Indication of danger:

Not dangerous

## 16. OTHER INFORMATION

Preparation Date: 03/25/2015  
Revision date 1/21/2019  
Prepared by: Sonia Owen

### Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against

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infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**