

SAFETY DATA SHEET

Creation Date 12-Nov-2014

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Revision Number 1

1. Identification

Product Name Shandon (Chemisorbent) Filter
Cat No. : 9990612, 1001618, B9990612CS, 23245560
Synonyms No information available
Recommended Use Laboratory chemicals.
Uses advised against No Information available
Details of the supplier of the safety data sheet

| | |
|---|---|
| Company Richard Allan Scientific A Subsidiary of Thermo Fisher Scientific 4481 Campus Drive Kalamazoo, MI 49008 Tel: (800) 522-7270 | Emergency Telephone Number Chemtrec US: (800) 424-9300 Chemtrec EU: 001 (202) 483-7616 |
|---|---|

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|------------|
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Kidney, Liver, Blood. | |

Label Elements

Signal Word
Warning

Hazard Statements

May cause respiratory irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

.? % of the mixture consists of ingredients of unknown toxicity.

3. Composition / information on ingredients

| Component | CAS-No | Weight % |
|------------------------|-----------|----------|
| Aluminum oxide | 1344-28-1 | 80-90 |
| Potassium permanganate | 7722-64-7 | 7-10 |

4. First-aid measures

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur. |
| Ingestion | Do not induce vomiting. Obtain medical attention. |
| Most important symptoms/effects | No information available. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | Not applicable |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors

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.

NFPAHealth
2Flammability
0Instability
0Physical hazards
N/A**6. Accidental release measures****Personal Precautions**

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage**Handling**

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------------|---|--|--|
| Aluminum oxide | TWA: 1 mg/m ³ | (Vacated) TWA: 10 mg/m ³ (Vacated) TWA: 5 mg/m ³ TWA: 15 mg/m ³ TWA: 5 mg/m ³ | |
| Potassium permanganate | TWA: 0.02 mg/m ³ TWA: 0.1 mg/m ³ | (Vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ | IDLH: 500 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³ |

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|------------------------|----------------------------|----------------------------|----------------------------|
| Aluminum oxide | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | TWA: 1 mg/m ³ |
| Potassium permanganate | TWA: 0.2 mg/m ³ | TWA: 0.2 mg/m ³ | TWA: 0.2 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|--------------------------|
| Physical State | Solid |
| Appearance | Reddish-violet |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | Not applicable |
| Melting Point/Range | No data available |
| Boiling Point/Range | Not applicable |
| Flash Point | Not applicable |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | No information available |
| Relative Density | No information available |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|---|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Avoid dust formation. Incompatible products. Excess heat. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Reducing agents, Metals |
| Hazardous Decomposition Products | Thermal decomposition can lead to release of irritating gases and vapors |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information**Acute Toxicity****Product Information**

No acute toxicity information is available for this product

Oral LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Mist LC50

Based on ATE data, the classification criteria are not met. ATE > 5 mg/l.

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------------|--|-------------|--|
| Aluminum oxide | > 5000 mg/kg (Rat) (OECD Guideline 401) | Not listed | > 2.3 mg/l 4 h (OECD Guideline 403) |
| Potassium permanganate | 750 mg/kg (Rat) | Not listed | Not listed |

Toxicologically Synergistic Products

No information available

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

No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------------|-----------|------------|------------|------------|------------|------------|
| Aluminum oxide | 1344-28-1 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Potassium permanganate | 7722-64-7 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects Mutagenic effects have occurred in experimental animals.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system Central nervous system (CNS)

STOT - repeated exposure Kidney Liver Blood

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|------------------------|------------------|--|------------|------------|
| Potassium permanganate | Not listed | 2.97-3.11 mg/L LC50 96 h 3.16-3.77 mg/L LC50 96 h 3.3-3.93 mg/L LC50 96 h 2.3 mg/L LC50 96 h 0.769-1.27 mg/L LC50 96 h 1.08-1.38 mg/L LC50 96 h 1.8-5.6 mg/L LC50 96 h 2.7 mg/L LC50 96 h | Not listed | Not listed |

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

All of the components in the product are on the following Inventory lists: Australia X = listed China Canada The product is

classified and labeled according to EC directives or corresponding national laws The product is classified and labeled in accordance with Directive 1999/45/EC Europe TSCA Korea Philippines Japan

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|------------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Aluminum oxide | X | X | - | 215-691-6 | - | | X | X | X | X | X |
| Potassium permanganate | X | X | - | 231-760-3 | - | | X | X | X | X | X |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|------------------------|-----------|----------|-------------------------------|
| Aluminum oxide | 1344-28-1 | 80-90 | 1.0 |
| Potassium permanganate | 7722-64-7 | 7-10 | 1.0 |

SARA 311/312 Hazardous Categorization

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|------------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Potassium permanganate | X | 100 lb | - | - |

Clean Air Act

Not applicable

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|------------------------|-----------|-------------------------|-------------------------|
| Potassium permanganate | X | | - |

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|------------------------|--------------------------|----------------|
| Potassium permanganate | 100 lb | - |

California Proposition 65 This product does not contain any Proposition 65 chemicals

State Right-to-Know

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|------------------------|---------------|------------|--------------|----------|--------------|
| Aluminum oxide | X | X | X | - | X |
| Potassium permanganate | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class D2B Toxic materials



16. Other information

Prepared By Regulatory Affairs
 Richard Allan Scientific
 A Subsidiary of Thermo Fisher Scientific
 Tel: (800) 522-7270

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS