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Last Revision Date: 23/08/2023
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Version Number: 06

SAFETY DATA SHEET

Product Code: 1504-B

SECTION 1 PRODUCT IDENTIFICATION

Product Name: Livingstone Filter Funnel

Product Uses: Laboratory Glassware

SECTION 2 HAZARD IDENTIFICATION

Not classified as hazardous according to NOHSC/ASCC Criteria
Not classified as dangerous goods by the criteria of the ADG Code

Emergency Overview

This material when properly handled according to good working and hygienic practices is not dangerous to human health and the environment at ambient temperature.
Edges or broken pieces could be sharp and require careful handling, especially when glass thickness is greater than 2mm.

General Precautionary Measures

Code	General Precautionary Statements	Hazard Class	Hazard Category	Conditions for Use
P101	If medical advice is needed, have product container or label at hand.	As appropriate	N/A	Consumer products
P102	Keep out of reach of children.	As appropriate	N/A	Consumer products
P103	Read label before use.	As appropriate	N/A	Consumer products

Inhalation: This product in the natural state does not present an inhalation, ingestion or contact hazard. However, operations such as burning, welding, sawing, brazing, machining and grinding may irritate respiratory system.

Eye Contact: Eye contact with the sharp tip may cause puncture and bleeding which can possibly cause inflammation and/or blindness. Molten form or dust particles may irritate or damage the eyes.

Skin Contact: Skin contact with the sharp tip may cause puncture and bleeding, possibly may lead to inflammation if the product is contaminated or uncleaned. Repeated or prolonged contact with dust coming from the glass may cause skin irritation, dermatitis or allergic reactions in sensitized individual. Molten form could cause burns and irritation to skin.

Ingestion: Ingestion of harmful amount of this product as distributed may cause nausea or vomiting and can cause damage to digestive system.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Chemical Formula	CAS No.
Silicon Dioxide	SiO_2	7631-86-9
Boron	B	7440-42-8
Sodium Oxide	Na_2O	1313-59-3
Aluminum Oxide	Al_2O_3	1344-28-1
Iron Oxide	Fe_2O_3	1309-37-1
Potassium Oxide	K_2O	12136-45-7

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SECTION 4 FIRST AID MEASURES

Inhalation:	For over-exposure to airborne fumes and particulate, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly. Metal fume fever that could be generated from iron oxide and aluminum oxide may be treated by bed rest, and administering a pain and fever reducing medication.
Eye Contact:	Treat for foreign body in the eye. Flush with large amounts of clean water to remove particles. Seek immediate medical attention.
Skin Contact:	Remove contaminated clothing, wash affected area thoroughly with mild soap and water or use cotton with antiseptic to clean up puncture. Apply pressure to affected area to stop the bleeding. If irritation, inflammation or other symptoms develop, seek medical attention.
Ingestion:	Do not induce vomiting and seek immediate medical advice.

SECTION 5 FIRE FIGHTING MEASURES

Suitable Extinguishing Equipment:	Use dry chemical, foam or carbon dioxide fire extinguisher. Must also use extinguishing media most appropriate for the surrounding fire.
Fire and Explosion Hazard:	This product does not present fire or explosion hazards under normal conditions. But, molten metal may react violently with water. High concentrations of metallic fines in the air may present an explosion hazard. Metal fire produces toxic fumes like carbon monoxide, iron oxide, and etc. when burning.
Special Protective Equipment:	Fire fighters should wear a self contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode, and full protective equipment, including full bunker gear.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Disposed in an appropriately permitted waste landfill, or disposed by other methods in accordance with local, state, and federal regulations. Finely divided, dry particles should be removed by vacuuming or wet sweeping to prevent spreading dusts. Avoid using compressed air.

Spill / Leak Procedures:	Not applicable to products in solid state. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways. Collect material in appropriate, labelled containers for recovery or disposal in accordance with federal, state, and local regulations.
Regulatory Requirements:	Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.
Disposal:	Follow applicable Federal, state, and local regulations.

SECTION 7 HANDLING AND STORAGE

Safe Handling:	Handle with care and in accordance with directions for use to prevent breakage. Do not eat, drink and smoke in working area. Wash hand before and after handling. Remove contaminated clothing and protective equipment before entering eating areas.
Storage Conditions:	Store in a cool and dry place. Keep out of reach of children. Keep protected from sunlight, acids, fire/ heat sources, electrical wirings/sources and other incompatible materials.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Standards:

Chemical Name	Limit at work (AGW) TRGS 900 Regulation	OSHA PEL[1]	ACGIH TLV[2]
Iron	10mg/m³ – Breathable dust 3 mg/m³ – Alveolar dust	10 mg/m³ – Iron oxide fume	5mg/m³ – Iron oxide dust and fume
Silicon	4 mg/m³ – Breathable dust	15 mg/m³ – Total dust 5 mg/m³ – Respirable fraction	10mg/m³

[1] **OSHA Permissible Exposure Limits (PELs)** are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (C) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday.

[2] **Threshold Limit Values (TLV)** established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted.

Engineering Controls:

Use controls as appropriate to minimize exposure to fumes and dusts during handling operations. Use lifting and work devices, e.g., crane, hoist, etc., within rated capacities and in accordance with manufacturer's instructions when handling these products.

(1) Avoid breathing dust and fume.
(2) Evaluate potential employee exposure.
(3) Minimize generation of airborne emissions.
(4) Maintain surfaces free as practical of accumulated material.
(5) Use protective clothing as specified by an industrial hygienist or safety professional where exposure levels may be excessive.
(6) Do not smoke in work area.
(7) Wash hands before eating, drinking or smoking and after handling.
(8) Change contaminated clothing before leaving work premises.

Ventilation: Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrive Controls: Do not use compressed air to clean-up spills.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen.

Skin and Eye Protection: For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, gloves and safety glasses to prevent skin and eye contact. Use safety glasses or goggles and protective gloves as required for handling operations.

SECTION 9 PHYSICAL/CHEMICAL PROPERTIES

Appearance and Odour:	Solid, transparent and odorless	**Evaporation Rate:**	Not applicable
pH:	Not applicable	**Flammability:**	Non-flammable, non-combustible
Melting / Freezing Point:	~1260˚C	**Vapour Pressure:**	Not applicable
Boiling Point:	Not applicable	**Vapour Density:**	Not applicable
Softening Point:	820˚C ($10^{7.65}$ dPas)	**Relative Density:**	2.23 – 2.49
Transformation Temperature:	525˚C	**Solubility in Water:**	Insoluble
Flash Point:	No data available	**Auto Ignition:**	No data available

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SECTION 10 STABILITY AND REACTIVITY

Stability: This product is stable under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.

Chemical Incompatibilities: Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

Conditions to Avoid: Direct flame, ignition sources, incompatible materials.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Entry Route – Inhalation: This product in the natural state does not present an inhalation, ingestion or contact hazard. However, operations such as burning, welding, sawing, brazing, machining and grinding may result in the following effects if exposures exceed recommended limits as listed in Section 8.

Target Organs: Respiratory system

Chronic Effects: Presented below are the potential health effects that have been identified for the ingredients listed that are of industrial hygiene significance.

1. IRON OXIDE: Chronic inhalation of excessive concentrations of iron oxide fumes or dusts may result in the development of a benign lung conditions known as pneumoconiosis, called siderosis, which is observable as an X-ray change. But, no physical impairment of lung function has been associated with siderosis.

2. SILICON: Silicon dusts are a low health risk by inhalation and should be treated as a nuisance dust.

Carcinogenicity: The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA do not list glass products as carcinogens.

Medical Conditions Aggravated by Long-Term Exposure

Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.

Other: No LC50 or LD50 has been established for this product as a whole.

Iron LD50: 30 g/kg oral (rat).

Aluminium LD50: No data available

Boron LD50: 2000 mg/kg oral (mouse).

Silicon LD50: 3160 mg/kg oral (rat).

Mutagenicity, Teratogenicity: No data available

SECTION 12 ECOLOGICAL INFORMATION

This product in their usual form does not pose an ecological hazard.

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Ecotoxicity:	No data available for the product as a whole. However, individual components of the product have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife.
Environmental Fate:	No data available.
Environmental Degradation:	No data available.
Soil Absorption / Mobility:	No data available for the product as a whole. However, individual components of the product have been found to be absorbed by plants from soil.

SECTION 13 DISPOSAL CONSIDERATIONS

Recycling of this product is strongly encouraged and suggested. If recycling is not possible due to contamination, the product and its packaging must be disposed of in accordance with the local and national regulations.

SECTION 14 TRANSPORT INFORMATION

This product is not classified as dangerous good under transport regulations

UN No.:	N/A	**DG Class:**	N/A
Packaging Group:	N/A	**Hazchem Code:**	N/A

SECTION 15 REGULATORY INFORMATION

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, and Z-1-A):	The product as a whole is not listed. However, individual components of the product are listed.

SECTION 16 OTHER INFORMATION

Reason for Revision: To bring to date.

END OF SDS