

**MATERIAL SAFETY DATA SHEET****KELCAL POWDER 100**

PRODUCT CODE NUMBER(S): 4439-8, 4440-8

**PRODUCT IDENTIFICATION****Chemical Name and Synonyms:** Kelcal Powder 100, with and without pumice**Chemical Family:** Mixture**Chemical Formula:**  $K_2SO_4, CuSeO_4$ **Product Use:** Kjeldahl reagent**Manufacturer's Name and Address:**

Caledon Laboratories Ltd.

40 Armstrong Avenue

Georgetown, Ontario L7G 4R9

**Telephone No:** (905) 877-0101**Fax No:** (905) 877-6666**Emergency Telephone No:** CANUTEC (613) 996-6666**HAZARDOUS INGREDIENTS OF MATERIALS**

Ingredients	%	TLV Units	CAS No.
$K_2SO_4$	10.0 g	Not established	7778-80-5
$CuSeO_4$	0.30 g	0.2 mg/m <sup>3</sup>	Not available
Pumice	0 - 0.1 g	Not established	Not available

**PHYSICAL DATA****Physical State:** Solid**Odour and Appearance:** White powder; odourless**Odour Threshold (ppm):** Not available**Vapour Pressure (mm Hg):** Not applicable**Vapour Density (Air = 1):** Not applicable**Evaporation Rate:** Not applicable**Boiling Point (degrees C):** Not available**Melting Point (degrees C):** 1072°C**pH:** Not available**Specific Gravity:** 2.66**Coefficient of Water/Oil distribution:** Not available**SHIPPING DESCRIPTION****UN:** Not regulated**T.D.G. Class:** Not regulated**Pkg. Group:** Not regulated**REACTIVITY DATA****Chemical Stability:** Stable**Incompatibility with other substances:** Strong acids, oxidizers, carbides, alkali metals, halogen compounds.**Reactivity:** Avoid excessive heat, generation of dust, all incompatible materials.**Hazardous Decomposition Products:** Copper, selenium, and  $K_2O$  fumes, copper and sulphur oxides**FIRE AND EXPLOSION DATA****Flammability:** Not combustible**Extinguishing Media:** Use any means suitable for surrounding fire. Fight fire from up wind, from a safe distance. Firefighters must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes and contact with skin and eyes.**Flash Point (Method Used):** Not applicable**Autoignition Temperature:** Not applicable**Upper Flammable Limit (% by volume):** Not applicable**Lower Flammable Limit (% by volume):** Not applicable**Hazardous Combustion Products:** Copper, selenium, and  $K_2O$  fumes, copper and sulphur oxides**Sensitivity to Impact:** None identified**Sensitivity to Static discharge:** None identified**TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD<sub>50</sub>:**  $K_2SO_4$  (oral, rat) 6.6 g/kg**LC<sub>50</sub>:** Not available**Effects of Acute Exposure to Product:****Inhaled:** May be irritating to mucous membranes and upper respiratory tract, causing coughing, shortness of breath.**In contact with skin:** May cause mechanical irritation, redness and pain.**In contact with eyes:** May irritate causing temporary pain and redness.**Ingested:** Toxic. Copper compounds may cause metallic taste in mouth, burning sensation in the throat, and repeated vomiting. More severe exposures may cause ulceration of the gastrointestinal tract, diarrhea.**Effects of Chronic Exposure to Product:**

Prolonged or repeated contact with potassium sulphate may cause skin irritation or eye damage, and may aggravate kidney disorders. Prolonged or repeated contact with copper compounds may cause skin irritation, contact dermatitis.

Prolonged inhalation can cause lung damage. Chronic copper poisoning is typified by hepatic cirrhosis, copper deposits in the cornea, brain damage and kidney damage.

Occupational exposure to selenium has caused pallor, nervousness, depression, garlic odour of breath and sweat, gastrointestinal disturbances and dermatitis. Experiments with animals have produced liver damage, hemolytic anemia.

**Carcinogenicity:** Tumorigenic effects cited for selenium in animal testing**Teratogenicity:** Selenium has been shown to be fetotoxic in animal experimentation (RTECS No. VS7700000)**Reproductive Effects:** Reproductive effects cited for copper and for selenium in animal testing.

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**Mutagenicity:** *No information available***Synergistic Products:** *None known***PREVENTIVE MEASURES****Engineering Controls:** *Local exhaust ventilation recommended***Respiratory Protection:** *Dust mask. NIOSH approved respiratory equipment sufficient to prevent inhalation of fumes or dusts. For high or unknown concentrations, as in fire or spill conditions, NIOSH approved positive-pressure, full face-piece self-contained breathing apparatus.***Eye Protection:** *Chemical safety goggles***Skin Protection:** *Neoprene gloves. Other protective body-covering clothing sufficient to prevent contact.***Other Personal Protective Equipment:** *Safety shower and eye-wash fountain in work area.***Leak and Spill Procedure:** *Ventilate area. Cleanup personnel must be thoroughly trained in the hazards of this material and must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Mix with sand or inert absorbent, collect in a manner that does not raise dust, and transfer carefully into labelled, covered container(s) for removal by disposal company. Wash site of spillage thoroughly with water and detergent.***Waste Disposal:** *Follow all federal, provincial and local regulations for disposal.***Handling Procedures and Equipment:** *TOXIC. Workers using this chemical must be thoroughly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Avoid all contact and inhalation of dust or fumes. Use the smallest possible amount for the purpose, in designated areas with adequate ventilation. Keep work area clean and free of extraneous materials. Maintain good housekeeping procedures to avoid accumulation of dust. Keep containers closed when not in use and when empty.***Storage Requirements:** *Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight. Keep containers tightly closed when not in use and when empty. Protect from damage. Store away from incompatible materials.***FIRST AID MEASURES****Specific Measures:****Eyes:** *Immediately flush eyes with gently running water, holding eyelids open while flushing, for five to ten (5-10) minutes, or until no trace of chemical remains. If irritation persists, obtain medical attention.***Skin:** *Remove contaminated clothing. Brush or wipe off dry material. Flush affected areas with soap and running water for five to ten (5-10) minutes, or until no trace of chemical remains. If irritation persists, or if exposure was extensive, obtain medical attention.***Inhalation:** *Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty.***Ingestion:** *If the person is alert, and not convulsing, give 2 to 4 glasses of water to drink immediately. After the water has been swallowed encourage vomiting (under medical supervision) by touching the back of throat with finger or by administering syrup of ipecac. Get medical attention immediately.***REFERENCES USED***CCINFO disc: Cheminfo**Budavari: The Merck Index, 12th ed., 1997**Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987**Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979**Suppliers' Material Safety Data Sheets***ADDITIONAL INFORMATION****Date Issued:** *November 30, 1991***Revision:** *February 2011***MSDS:** *4439-8, 4440-8***Proposed WHMIS Designation:** *Insufficient information available*

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