

MATERIAL SAFETY DATA SHEET**KELCAL TABLETS**

PRODUCT CODE NUMBER(S): 4441-8, 4448-8

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: *Kelcal Tablets ST35, ST Auto*
Chemical Family: *Mixture*
Chemical Formula: K_2SO_4, Se
Product Use: *Kjeldahl reagent*
Manufacturer's Name and Address:
Caledon Laboratories Ltd.
40 Armstrong Avenue
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HAZARDOUS INGREDIENTS OF MATERIALS

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
K_2SO_4	~99	<i>Not established</i>	7778-80-5
<i>Selenium</i>	~1	0.2 mg/m^3	10214-40-1

PHYSICAL DATA

Physical State: *Solid*
Odour and Appearance: *White tablets, 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): $>1000^\circ\text{C}$
pH: *Not available*
Specific Gravity: *Not available*
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: *Selenium - acids, oxidizers, carbides, alkali metals, halogen compounds. K_2SO_4 - strong oxidizing agents*
Reactivity: *Avoid excessive heat, generation of dust, all incompatible materials.*
Hazardous Decomposition Products: SO_x, SeO_2

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: *None*
Sensitivity to Impact: *None identified*
Sensitivity to Static discharge: *None identified*

TOXICOLOGICAL PROPERTIES AND HEALTH DATA

Toxicological Data:
LD₅₀: *Selenium(oral, rat) 6.7 g/kg; K_2SO_4 (oral, rat) 6.6 g/kg*
LC₅₀: *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 irritation, redness and pain.*
In contact with eyes: *May irritate causing temporary pain and redness.*
Ingested: *Not considered toxic by ingestion. Very large doses could cause liver and kidney problems*

Effects of Chronic Exposure to Product:

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

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.

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 selenium.*

Mutagenicity: *No information available*

Synergistic Products: *None known*

PREVENTIVE MEASURES

Engineering Controls: *Local exhaust ventilation recommended*

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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 glasses*

Skin Protection: *Protective 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 should be thoroughly trained in the hazards of this material and should 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: *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 victim is alert and not convulsing, rinse mouth thoroughly with water and give 2 to 4 glasses of water to drink to dilute. If victim feels unwell, or if a large amount has been ingested, get medical attention.*

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: *December 14, 1991*

Revision: *February 2011*

MSDS: *4441-8, 4448-8*

Proposed WHMIS Designation: *Not a controlled product. Components present at less than reportable levels. Not required to be updated every three years (WHMIS 1992, B-40, Section 29,2)*

*Prepared by: Caledon Laboratories Ltd. (905) 877-0101
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