

MSDS Number: **D8906** * * * * * *Effective Date: 05/26/09* * * * * * *Supersedes: 07/27/06*

MSDS**Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



Mallinckrodt
CHEMICALS



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response In Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

DRIERITE® INDICATING

1. Product Identification

Synonyms: Anhydrous calcium sulfate, indicating (cobalt chloride) in varying mesh (4 mesh, 6 mesh, 8-mesh, 10-20 mesh)

CAS No.: 7778-18-9

Molecular Weight: 136.14

Chemical Formula: CaSO₄

Product Codes:

J.T. Baker: L057, L058, L059

Mallinckrodt: 3371, 3378

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Calcium Sulfate (anhydrous)	7778-18-9	96 - 98%	Yes
Cobalt(II) Chloride	7646-79-9	2 - 4%	Yes

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. CHRONIC EXPOSURE TO COBALT CHLORIDE MAY AFFECT THYROID, LUNGS, HEART, AND KIDNEYS.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Cancer Causing)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;
PROPER GLOVES

Storage Color Code: Green (General Storage)

Potential Health Effects
-----**Inhalation:**

Causes irritation to the respiratory tract, symptoms may include coughing, shortness of breath, and nausea. Respiratory hypersensitivity, asthma may appear from cobalt chloride component. Inhalation of cobalt dust and fumes is associated with an increased incidence of lung disease.

Ingestion:

For cobalt chloride component: Toxic. Causes abdominal pain, nausea, vomiting, flushing of the face and ears, mild hypotension, rash, and ringing in the ears. May have cumulative toxic action where elimination cannot keep pace with absorption. Large amounts depress erythrocyte production. Calcium sulfate may cause obstruction in stomach, as it hardens with moisture.

Skin Contact:

Causes irritation, redness, pain. May cause allergic dermatitis (cobalt chloride component).

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

For cobalt chloride component: Repeated oral administration may produce goiter and reduced thyroid activity. Prolonged or repeated skin exposure may cause dermatitis. Chronic exposure associated with kidney, liver, heart and lung damage.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance. Persons with allergies or sensitivity to cobalt may also be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

Drinking glycerin, gelatin solutions, or large volumes of water may delay the hardening of calcium sulfate in the stomach. Surgical relief of obstruction, particularly at the pylorus, may be necessary.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against

physical damage. Isolate from incompatible substances. Wash hands before eating and do not eat, drink, or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

0.1 mg/m³ (TWA) Cobalt metal dust and fume as Co

Calcium sulfate:

15 mg/m³ total dust, 5 mg/m³ respirable fraction

-ACGIH Threshold Limit Value (TLV):

inorganic cobalt compounds: 0.02 mg/m³ (TWA) as Co,

A3: Animal carcinogen.

Calcium sulfate: 10 mg/m³ (TWA) inhalable fraction

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Blue granules.

Odor:

Odorless.

Solubility:

0.3g in 100g of water.

Specific Gravity:

1.87

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Not applicable.

Melting Point:

1450C (2642F) Monoclinic

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Very hygroscopic.

Hazardous Decomposition Products:

Oxides of sulfur and the contained metal. May emit toxic chloride fumes when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Diazomethane, phosphorous, strong oxidizers, tert-butyl hydroperoxide, potassium and metal halides, sodium dispersions.

Conditions to Avoid:

Air, moisture, and incompatibles.

11. Toxicological Information

Cobalt chloride: oral rat LD50: 80 mg/kg; investigated as a tumorigen, mutagen, reproductive effector

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Calcium Sulfate (anhydrous) (7778-18-9)	No	No	None

Cobalt(II) Chloride (7646-79-9)

No

No

2B

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Calcium Sulfate (anhydrous) (7778-18-9)	Yes	Yes	Yes	Yes
Cobalt(II) Chloride (7646-79-9)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	--Canada-- NDSL	Phil.
Calcium Sulfate (anhydrous) (7778-18-9)	Yes	Yes	No	Yes
Cobalt(II) Chloride (7646-79-9)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302- RQ	TPQ	-----SARA 313----- List	Chemical Catg.
Calcium Sulfate (anhydrous) (7778-18-9)	No	No	No	No
Cobalt(II) Chloride (7646-79-9)	No	No	No	Cobalt compo

-----\Federal, State & International Regulations - Part 2\-----				
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Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Calcium Sulfate (anhydrous) (7778-18-9)	No	No	No
Cobalt(II) Chloride (7646-79-9)	1	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Mixture / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. CHRONIC EXPOSURE TO COBALT CHLORIDE MAY AFFECT THYROID, LUNGS, HEART, AND KIDNEYS.

Label Precautions:

Avoid breathing dust.
 Keep container closed.
 Use with adequate ventilation.
 Wash thoroughly after handling.
 Avoid contact with eyes, skin and clothing.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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