1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Brenntag Canada Inc.
43 Jutland Rd.
Toronto, ON
M8Z 2G6
(416) 259-8231

Website: http:\www.brenntag.ca

WHMIS#: 00060132
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Date of Revision: 2010 September 17

EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

Toronto, ON (416) 226-6117                     Montreal, QC (514) 861-1211                     Winnipeg, MB (204) 943-8827
Edmonton, AB (780) 424-1754                  Calgary, AB  (403) 263-8660                       Vancouver, BC (604) 685-5036

PRODUCT IDENTIFICATION

Product Name: Celatom (All Grades), Solid.
Chemical Name: Diatomaceous Earth, Flux-Calcined.
Synonyms: Celatom FW and MW Grades (Celatom FP-2, FP-3, FP-4, FW-6, FW-10, FW-12, FW-14, FW-18, FW-20, FW-40, FW-50, FW-60, FW-70, FW-80, or SP); Fibra-Cel SW-10;
Silica, Crystalline Quartz; Silica (Cristobalite); Silicon Dioxide; Kieselguhr; Soda Ash Flux Calcined.

Chemical Family: Non-metallic oxides.
Molecular Formula: SiO2.

WHMIS Classification / Symbol:
D-2A: Very Toxic (carcinogen, chronic effects)

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS#</th>
<th>ACGIH TLV</th>
<th>% Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diatomaceous Earth</td>
<td>68855-54-9</td>
<td>---</td>
<td>100</td>
</tr>
<tr>
<td>or Diatomaceous Earth, Calcined</td>
<td>91053-39-3</td>
<td>---</td>
<td>100</td>
</tr>
<tr>
<td>Silica (Cristobalite)</td>
<td>14464-46-1</td>
<td>0.025 mg/m³</td>
<td>10 - 70</td>
</tr>
</tbody>
</table>

* Respirable fraction

A2 = Suspected Human Carcinogen (ACGIH-A2).

3. HAZARDS IDENTIFICATION

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.

Skin Contact: Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.

Eye Contact: Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.
Ingestion:
Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. IMMEDIATELY contact local Poison Control Centre. Vomiting should only be induced under the direction of a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility.

Note to Physicians:
Treat symptomatically. Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

5. FIRE-FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flashpoint (°C)</th>
<th>Autolignition Temperature (°C)</th>
<th>Flammability Limits in Air (%):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Flammable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability Class (WHMIS):</td>
<td>Not regulated.</td>
<td></td>
</tr>
<tr>
<td>Hazardous Combustion Products:</td>
<td>Thermal decomposition products are toxic and may include oxides of silicon.</td>
<td></td>
</tr>
<tr>
<td>Unusual Fire or Explosion Hazards:</td>
<td>Minimize air borne spreading of dust. Spilled material may cause floors and contact surfaces to become slippery. Do not flush with water as aqueous solutions or powders that become wet render surfaces extremely slippery.</td>
<td></td>
</tr>
<tr>
<td>Sensitivity to Mechanical Impact:</td>
<td>Not expected to be sensitive to mechanical impact.</td>
<td></td>
</tr>
<tr>
<td>Rate of Burning:</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Explosive Power:</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Sensitivity to Static Discharge:</td>
<td>Not expected to be sensitive to static discharge.</td>
<td></td>
</tr>
</tbody>
</table>

EXTINGUISHING MEDIA
Fire Extinguishing Media: Use media appropriate for surrounding fire and/or materials.

FIRE FIGHTING INSTRUCTIONS
Instructions to the Fire Fighters: Fire-exposed containers should be kept cool by spraying with water to reduce pressure. Spilled material may cause floors and contact surfaces to become slippery.

Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures:
In all cases of leak or spill contact vendor at Emergency Number shown on the front page of this MSDS. Minimize air borne spreading of dust. Wear respirator, protective clothing and gloves. Spilled material may cause floors and contact surfaces to become slippery.

Any recovered product can be used for the usual purpose, depending on the extent and kind of contamination. Where a package (drum or bag) is damaged and / or leaking, repair it, or place it into an over-pack drum immediately so as to avoid or minimize material loss and contamination of surrounding environment. Replace damaged containers immediately to avoid loss of material and contamination of surrounding atmosphere. Avoid dry sweeping. Do not use compressed air to clean surfaces. Vacuuming or wet sweeping is preferred. Return all material possible to container for proper disposal. Do not flush with water as aqueous solutions or powders that become wet render surfaces extremely slippery. Eliminate all sources of ignition. Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE
HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Minimize air borne spreading of dust. Do not use in poorly ventilated or confined areas without proper respiratory protection. Ventilate low lying areas such as sumps or pits where dense dust may collect.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before reuse.

STORAGE

Storage Temperature (°C): See below.

Ventilation Requirements: Local exhaust ventilation required.

Storage Requirements: Store in a cool, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Do not expose sealed containers to temperatures above 40° C. Avoid moisture contamination. Prolonged storage may result in lumping or caking.

Special Materials to be Used for Packaging or Containers: Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls: Local exhaust ventilation required. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Safety glasses with side shields are recommended as minimal eye protection. Use chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.

Skin Protection: Gloves and protective clothing made from cotton, canvas, rubber or plastic should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA-approved air-purifying respirator equipped with dust, mist, fume cartridges for concentrations up to 0.5 mg/m³ Silica (Cristobalite) or 100 mg/m³ particulate. An air-supplied respirator if concentrations are higher or unknown.

Immediately Dangerous to Life and Health (IDLH) value: 25 mg/m³ Silica (Cristobalite). The purpose of establishing an IDLH value is to ensure that the worker can escape from a given contaminated environment in the event of failure of the most protective respiratory equipment. In the event of failure of respiratory protective equipment, every effort should be made to exit immediately. (4)

Other Personal Protective Equipment: Wear regular work clothing. The use of coveralls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>ACGIH TLV (STEL)</th>
<th>OSHA PEL (TWA)</th>
<th>OSHA PEL (STEL)</th>
<th>NIOSH REL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica (Cristobalite)</td>
<td>—</td>
<td>10 mg/m³ (%SiO2+2) x0.5 (Respirable dust)</td>
<td>---</td>
<td>0.05 mg/m³ (Respirable dust)</td>
</tr>
</tbody>
</table>

Particulate Not Otherwise Classified:

| ACGIH 10 mg/m³ - Inhalable particulate | OSHA 50 mppcf* or 15 mg/m³ - Total Dust |
| ACGIH 3 mg/m³ - Respirable particulate | OSHA 15 mppcf* or 5 mg/m³ - Respirable Fraction |

* mppcf = million particles per cubic foot

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State: Solid.
### Appearance:
White or pink powder or granules.

#### Odour:
Odourless

#### Odour Threshold (ppm):
Not applicable.

#### Boiling Range (°C):
Not applicable.

#### Melting/Freezing Point (°C):
> 1 300. (3)

#### Vapour Pressure (mm Hg at 20° C):
Not applicable.

#### Vapour Density (Air = 1.0):
Not applicable.

#### Relative Density (g/cc):
2.0 - 2.3. (3)

#### Bulk Density:
Not available.

#### Viscosity:
Not applicable.

#### Evaporation Rate (Butyl Acetate = 1.0):
Not applicable.

#### Solubility:
< 1 %. (3)

#### % Volatile by Volume:
0 %

#### pH:
7 - 10 (10 % slurry). (3)

#### Coefficient of Water/Oil Distribution:
Not applicable.

#### Volatile Organic Compounds (VOC):
Not applicable.

#### Flashpoint (°C):
Not Flammable.

### 10. STABILITY AND REACTIVITY

#### CHEMICAL STABILITY

**Under Normal Conditions:** Stable.

**Under Fire Conditions:** Not flammable.

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid:**
High temperatures, sparks, open flames and all other sources of ignition. Avoid high temperatures (above 800 °C) and treatment (calcining). (3) Calcining is the heating of the product to below its melting point to cause thermal decomposition or phase transition. (3) Natural diatomaceous earth can be converted to a form of crystalline silica (mainly cristobalite), if heated to high temperatures (800 to 1000 °C). (4) Minimize air borne spreading of dust. Clean up immediately to eliminate slipping hazard. Avoid moisture contamination.

**Materials to Avoid:**
Hydrofluoric Acid. Silica will dissolve in hydrofluoric acid to produce a corrosive gas, silicon tetrafluoride. 

**Decomposition or Combustion Products:**
Thermal decomposition products are toxic and may include oxides of silicon.

### 11. TOXICOLOGICAL INFORMATION

#### TOXICOLOGICAL DATA:
Meaningful toxicological test data could not be found for this product.

**Carcinogenicity Data:**
Silica (Cristobalite) is classified as carcinogenic by IARC (International Agency for Research on Cancer). (IARC-1); ACGIH (American Conference of Governmental Industrial Hygienists) (ACGIH-A2); NIOSH (National Institute for Occupational Safety and Health) (NIOSH-Ca); NTP (National Toxicology Program) (NTP-K).

**Reproductive Data:**
No adverse reproductive effects are anticipated.

**Mutagenicity Data:**
No adverse mutagenic effects are anticipated.

**Teratogenicity Data:**
No adverse teratogenic effects are anticipated.

**Respiratory / Skin Sensitization Data:**
None known.

**Synergistic Materials:**
None known.
Increased rates of lung cancer have been reported among workers exposed to crystalline silica in mines, quarries, foundries, ceramics and glass industries and granite and stone cutting operations. (4)

Rats, guinea pigs and dogs exposed for 2.5 years to 0.2, 0.5 and 5 mg/M3 of diatomaceous earth containing 61% cristobalite showed signs of lung damage but did not develop scarring of the lungs (fibrosis). (4)

Flux-calcined diatomaceous earth contains crystalline silica which is a known cause of silicosis, a progressive, sometimes fatal, lung disease. In a 1997 monograph (Volume 68 "Silica, Some Silicates, Coal Dust and Para-Aramid Fibres"), the International Agency for Research on Cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans." In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all Industrial circumstances studied. (3)

Eagle-Picher Minerals, Inc. in conjunction with other members of the International Diatomite Producers Association (IDPA) sponsored a study to examine the long term health effects among certain workers in the diatomaceous earth (DE) industry. The study was conducted by the University of Washington School of Public Health and Community Medicine and a final report was issued in October, 1992. The report concluded that there was an increase in non-malignant respiratory disease (NMRD) and lung cancer incidence among those DE workers studied when compared to national and regional populations (Standard Mortality Ratio of 2.58 and 1.43, respectively). The report further concluded that relatively intense exposures that occurred before the 1950's were probably the most important contributors to the excesses in NMRD and lung cancer. In addition, data in the report indicated that improvements in the dust control in the industry appear to have abated any excess risk of silicosis and lung cancer in today's work environment. (3)

Although the recent IARC determination was, in part, based the 1992 study of diatomite workers, a 1996 follow-up which was issued by the University of Washington and Tulane University was not available to the Working Group. The follow-up study reported a Standardized Mortality Ratio (SMR) of 2.01 for non-malignant respiratory disease (NMRD) and lung cancer when compared to national and regional populations. This is a reduction in the levels reported in the 1992 report (SMR = 2.59 for NMRD and SMR = 1.43 for lung cancer). (3)

A soon to be published (1997) radiographic study also appears to support the fact that current occupational exposures and occupational exposure limits are adequate to prevent excess risks of developing silicosis from diatomaceous earth. (3)

### 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available. May be harmful to aquatic life.

Environmental Fate: Not available. This material is not considered to be biodegradable. (3) Can be dangerous if allowed to enter drinking water intakes. Product has an unaesthetic appearance and can be a nuisance. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

### 13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals: Not applicable.

Waste Disposal Methods: This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.

Safe Handling of Residues: See "Waste Disposal Methods".

Disposal of Packaging: Empty package may be disposed of with normal garbage.

### 14. TRANSPORTATION INFORMATION

**CANADIAN TDG ACT SHIPPING DESCRIPTION:**

This product is not regulated by TDG.

Label(s): Not applicable. Placard: Not applicable.

ERAP Index: None known.
US DOT CLASSIFICATION (49CFR 172.101, 172.102):
This product is not regulated by DOT.
Label(s): Not applicable.  Placard: Not applicable.
CERCLA-RQ: Not available.  Exemptions: None known.

15. REGULATORY INFORMATION

CANADA
CEPA - NSNR: All constituents of this product are included on the DSL.
CEPA - NPRI: Not included.
Controlled Products Regulations Classification (WHMIS):
D-2A: Very Toxic (carcinogen, chronic effects)

USA
Environmental Protection Act: All constituents of this product are included on the TSCA inventory.
NFPA: 0 Health, 1 Fire, 0 Reactivity (3)
HMIS: 1 Health, 0 Fire, 0 Reactivity (3)

INTERNATIONAL
Not available.

16. OTHER INFORMATION

REFERENCES
1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO chemical profile, Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
6. Regulatory Affairs Group, Brenntag Canada Inc.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Brenntag Canada Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

British Columbia: 20333-102B Avenue, Langley, BC, V1M 3H1
Phone: (604) 513-9009  Facsimile: (604) 513-9010

Alberta: 6628 - 45 th. Street, Leduc, AB, T9E 7C9
Phone: (780) 986-4544  Facsimile: (780) 986-1070

Manitoba: 681 Plinquet Street, Winnipeg, MB, R2J 2X2
Phone: (204) 233-3416  Facsimile: (204) 233-7005

Ontario: 43 Jutland Road, Toronto, ON, M8Z 2G6
Phone: (416) 259-8231  Facsimile: (416) 259-5333