1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY UNDERTAKING

1.1 Product identifier
   Product name 0-0-16 K-Cal Plus # 23039

1.2 Relevant use of the product
   Applications Fertilizers

1.3 Manufacturer, Importer or Responsible Party
   Name FERTI TECHNOLOGIES
   Address 560, Chemin Rhéaume, C.P 129
   J0L 2J0
   Saint-Michel, Québec, Canada
   Telephone 450 454-7521
   Contact email astpierre@fertitechno.com

1.4 Emergency phone number
   Telephone USA National Capital Poison Center: 1 800 222 1222

2. HAZARDS IDENTIFICATION

2.1. The hazard classification of the chemical according to HCS 2012 (US-GHS)

   Skin irrit. 3       H316
   Eye irrit. 2B      H320
   STOT SE 3          H335
   Carc. 1A           H350
   STOT RE 1          H372

2.2. Danger symbols

2.3. Signal word
   Warning

2.4. Hazard statements
   H316 Causes mild skin irritation
   H320 Causes eye irritation
   H335 May cause respiratory irritation
   H350 May cause cancer.
   H372 May cause damage to organs (Lungs) through prolonged or repeated exposure if inhaled.

2.5. Precautionary statements
   Prevention
   P201 Obtain special instructions before use.
   P202 Do not handle until all safety precautions have been read and understood.
   P260 Do not breathe dust.
   P264 Wash hands thoroughly after handling.
2.6 Description of any hazards not otherwise classified

Not applicable.

2.7 % ingredient(s) with unknown acute toxicity

Not applicable.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-Nr.</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcitic lime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium carbonate (99 %)</td>
<td>1317-65-3</td>
<td>C = 49.8 %</td>
</tr>
<tr>
<td>Quartz (&lt; 1%)</td>
<td>14808-60-7</td>
<td></td>
</tr>
<tr>
<td>Humic acid (&lt; 1%)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>K-Mag premium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium magnesium sulfate (94.5 % - 99.5 %)</td>
<td>14977-37-8</td>
<td>C = 28.6 %</td>
</tr>
<tr>
<td>Sodium chloride (0.5 % - 2 %)</td>
<td>7647-14-5</td>
<td></td>
</tr>
<tr>
<td>Other naturally-occurring minerals (0.5 – 3.5 %)</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Potassium sulfate</td>
<td>7778-80-5</td>
<td>C = 21.6 %</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

#### 4.1 First Aid measures after Inhalation

Following inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided by a qualified operator. Get medical attention if irritation develops and persists.

#### 4.2 First Aid measures after Skin exposure

Following skin contact: Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.

#### 4.3 First Aid measures after Eye exposure
Following eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

4.4 First Aid measures after Ingestion
Following ingestion
Induce vomiting, but only if victim is fully conscious. Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. Do not give milk or alcoholic beverages. Call a physician.

4.5 Most important symptoms and effects, both acute and delayed

**INHALATION**
None known.

**SKIN**
Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult a physician.

**EYES**
May cause eye irritation

**INGESTION**
None known.

4.6 Indication of any immediate medical attention and special treatment needed

Notes to physician:
Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
**Suitable:**
Use extinguishing agent suitable for type of surrounding fire. Avoid excessive water to minimize runoff. Prevent firefighter water from entering the environment.
Small fires: Water spray, foam, dry chemical or CO2
Large fires: Water spray, fog or foam.

**Unsuitable:** Not applicable.

5.2 Special hazards arising from chemical or mixture during the fire
Container may rupture on heating. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Explosive reactions with oxidizing agents such as potassium chlorate and/or peroxides. In case of fire hazardous decomposition products may be produced such as:
- Ammonia
- Carbon monoxide
- Carbon dioxide (CO2)

5.3 Special Protective Precautions or equipment for firefighters
In the event of fire and/or explosion do not breathe fumes. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment
Wear personal protective equipment.

6.2 Emergency procedures
Unprotected persons must be kept away.
Evacuate personnel to safe areas.
Provide adequate ventilation.
Avoid dust formation.
Avoid breathing dust.
Avoid contact with skin, eyes and clothing.
6.3 Methods and materials used for containment
Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
Do not let product enter drains.

6.4 Clean-up procedures
Use mechanical handling equipment.
Clean contaminated surface thoroughly.
Pick up and arrange disposal without creating dust.
Use a suitable vacuum cleaner.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Handle with care.
Wear personal protective equipment.
Use only in well-ventilated areas.
Avoid dust formation.
Provide exhaust ventilation if dust is formed.
Dust must be extracted directly at the point of origin.
Avoid breathing dust.
Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage
Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers should be protected against falling down.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ACGIH-Threshold Limit Value (TLV)
Exposure limit values of the components:
Calcium carbonate: ACGIH TLV® = 10 mg/m³
Respirable quartz dust: ACGIH TLV® = 0,025 mg/m³

8.2 OSHA-Permissible Exposure Limit (PEL)
Exposure limit values of the components:

<table>
<thead>
<tr>
<th>Component / CAS</th>
<th>TLV, 8H (OSHA, PEL, ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mg/m³</td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>Total dust: 30 mg/m³ / %SiO2+2 (OSHA Z-3)</td>
</tr>
<tr>
<td>CAS N°: 14808-60-7</td>
<td>Respirable: 10 mg/m³ / %SiO2+2 (OSHA Z-3)</td>
</tr>
<tr>
<td></td>
<td>Respirable: 250 mppcf / %SiO2+5 (OSHA Z-3)</td>
</tr>
<tr>
<td>Limestone</td>
<td>Total dust: 15 mg/m³ (OSHA Z-1)</td>
</tr>
<tr>
<td>CAS N°: 1317-65-3</td>
<td>Respirable: 5 mg/m³ (OSHA Z-1)</td>
</tr>
<tr>
<td></td>
<td>Total dust: 15 mg/m³ (OSHA P0)</td>
</tr>
<tr>
<td></td>
<td>Respirable: 5 mg/m³ (OSHA P0)</td>
</tr>
<tr>
<td>Particulates Not Otherwise Regulated (PNOR) :</td>
<td>Total dust: 15 mg/m³ (OSHA Z-1)</td>
</tr>
<tr>
<td></td>
<td>Respirable: 5 mg/m³ (OSHA Z-1)</td>
</tr>
</tbody>
</table>

8.3 Any other exposure limit used or recommended by chemical manufacturer
Non applicable
8.4 Engineering Controls
Provide exhaust ventilation if dust is formed. Dust must be extracted directly at the point of origin. Apply technical measures to comply with the occupational exposure limits.

8.5 Personal Protective Equipment

**Hand protection:** Gloves
Gloves must be inspected prior to use. Replace when worn.

**Eye protection:** Do not wear contact lenses.
Wear as appropriate: Safety glasses with side-shields

**Body protection:** Long sleeved clothing

**Respiratory protection:** A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer’s respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator use.

**Hygiene measures:** Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use. Keep working clothes separately.

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9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Information of basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (physical state, colour, etc.)</td>
<td>Multicolor solid</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point;</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

10.1 Reactivity
Contains Limestone which reacts with acids. It forms carbon dioxide (CO2). This displaces the oxygen in the air in closed spaces. (danger of suffocation)

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4 Conditions to avoid
Contact with incompatible materials

10.5 Incompatible materials
Strong oxidizing agents, fluorine, boron trifluoride, chlorine trifluoride.

10.6 Hazardous decomposition products
Limestone ignites on contact with fluorine and is incompatible with acids, ammonium salts and magnesium.

11. TOXICOLOGICAL INFORMATION

11.1 Measures of Toxicity
Acute toxicity:
Limestone:
Acute toxicity: LD50 Oral (Rat): > 5,000 mg/kg
Silica:
Acute toxicity: LD50 (Rat): 5,000 mg/kg (Mouse): >15000 mg/Kg
Skin corrosion/irritation:
No data available
Serious eye damage/irritation:
No data available
Respiratory or skin sensitisation:
Product:
no data available
11.2 Listed in IARC or considered carcinogen by NTP or OSHA
Quartz (SiO2)
CAS N°: 14808-60-7
Group 1 (IARC), Volume 68, 100C

11.3 Further information
This product contains prismatic tremolite (e.g., cleavage fragments) as an impurity. Sufficient exposure to respirable prismatic tremolite dust may cause serious lung problems.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Ingredients:
Silica (quartz):
Toxicity to fish:
LC50: > 10,000 mg/l
Exposure time: 96 h
Species: *Oncorhynchus mykiss* (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates:
EC50: >1000 mg/l (Exposure time:48 h)
Species: *Daphnia magna* (Water flea)
EC50: 200 mg/l (Exposure time:72h)
Species: *Desmodesmus subspicatus* (green algae)
Limestone:
Toxicity to fish
LC50: >10,000 mg/L (Exposure time: 96 Hours)
Species: Algae
Toxicity to daphnia and other aquatic invertebrates:
EC50: >1000mg/l (Exposure time:48 h)
Species: *Daphnia magna* (Water flea)

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
May release ammonium ions that are toxic to fish. Un-ionized ammonia concentrations above 0.02 mg/l are considered toxic in fresh water. May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen. At extremely high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream. Fish 96 hour LC50, OECD Guidelines 203 (rainbow trout): >86mg/L.
13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods to employ

Recover or recycle if possible. Properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Empty containers should be taken to an approved waste handling site for recycling or disposal.

13.2 Description of appropriate disposal containers to use

No data available

13.3 Description of the physical and chemical properties that may affect disposal activities

No data available

13.4 Language discouraging sewage disposal.

No data available

13.5 Any special precautions for landfills or incineration activities

No data available

14. TRANSPORT INFORMATION

UN Number ..........................................................

UN proper shipping name ............................................

Transport hazard classes ............................................

Packing group ........................................................

Environmental hazards .............................................

Guidance On transport in bulk .....................................

Special precautions for user ........................................

15. REGULATORY INFORMATION

National and/or regional regulatory information of the chemical or mixtures

Inventories:
US. Toxic Substances Control Act: No data available

OSHA Hazards: Carcinogen

Clean Air Act: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

16. OTHER INFORMATION

Indications on the revision
First edition: 08/10/2015
Addition of all fields as required by regulation (US) HCS 1910.1200 [HCS 2012].
Update of the classification information and update of related sections accordingly.

Abbreviations and acronyms used
- ACGIH: American conference of governmental and industrial hygienist
- CAS No.: Chemical Abstract Service Number
- CFR: Code of Federal Regulations
- EC50: Half maximal effective concentration
- IARC: International agency for the research on cancer
- IC50: Half maximal inhibitory concentration
- HCS: Hazard communication standard
- LC50: Half maximal lethal concentration
- LD50: Half maximal lethal dose
- NIOSH: National institute of occupational safety and health
- OSHA: Occupational safety and health administration
- STOT SE: Specific target organ toxicity Single exposure
- UN No.: United Nations Number

Methods of evaluation for the classification of mixtures
The classification of the mixture was set based on the regulation (US) HCS 1910.1200 [HCS 2012].

Other information
This information is based on our present knowledge and is provided according to the relevant national regulations. This information is intended as a characterization of the product in order to provide guidance for the relevant safety issues. However, this document does not provide any warranty, expressed or implied, regarding the properties of the product.