Material Safety Data Sheet
Calcium Formate

Section 1: Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name: Calcium Formate 98%</th>
<th>Company Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name: Calcium Formate</td>
<td>Chemtrade International</td>
</tr>
<tr>
<td>Customs Tariff No: 29151200</td>
<td>Rm. 201, Unit 3, Building 8, Shijia Garden, No. 93,</td>
</tr>
<tr>
<td>Synonym Name: Calcium diformate; Calcoform; Formic acid, calcium salt;</td>
<td>Xiangjiang Road, Qingdao Development Zone,</td>
</tr>
<tr>
<td>Chemical Formula: Ca(HCOO)₂</td>
<td>Qingdao, Shandong, China 266555</td>
</tr>
<tr>
<td></td>
<td>Tel: 0086-532-86893005</td>
</tr>
<tr>
<td></td>
<td>Fax: 0086-532-86893005</td>
</tr>
</tbody>
</table>

Section 2: Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No.</th>
<th>EINECS No.</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Formate</td>
<td>544-17-2</td>
<td>208-863-7</td>
<td>99.0</td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification

Appearance: clear colorless powder.
Warning! Causes eye, skin, and respiratory tract irritation.
Target Organs: Respiratory system, eyes, skin.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: Causes irritation of the mucous membrane and upper respiratory tract.
Chronic: No information found.

Section 4: First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire and Explosion Data

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media: In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0 LARGE FIRE: Use water spray, fog or foam.
Special Remarks on Fire Hazards: No information found
Special Remarks on Explosion Hazards: No information found
Section 6: Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Provide ventilation.

Section 7: Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

**Storage:** Store in a tightly closed container. Store in a cool, dry area away from incompatible substances.

Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium formate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Calcium formate: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9: Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** clear colorless

**Odor:** slight acetic acid odor

**pH:** Not applicable.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** > 300 deg C

**Decomposition Temperature:** Not available.

**Solubility:** soluble in water

**Specific Gravity/Density:** 2.02

**Molecular Formula:** C2H2CaO4

**Molecular Weight:** 130.11

Section 10: Stability and Reactivity Data

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials.

**Incompatibilities with Other Materials:** None reported.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

Section 11: Toxicological Information
RTECS#: CAS# 544-17-2: LQ5600000
LD50/LC50:
  CAS# 544-17-2:
    Draize test, rabbit, eye: 100 mg/24H Moderate;
    Oral, mouse: LD50 = 1920 mg/kg;
    Oral, rat: LD50 = 2650 mg/kg;

  Calcium formate @ 0.2 ppm for 2 years in rat drinking water did not affect growth, fertility, or function in up to 5

Carcinogenicity:
  CAS# 544-17-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Section 12: Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No data available.
Physical: No data available.
Other: None.

Section 13: Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14: Transport Information

US DOT: Not regulated as a hazardous material
Identification: No information found
Special Provisions for Transport: No information found

Section 15: Other Regulatory Information

US FEDERAL

TSCA
  CAS# 544-17-2 is listed on the TSCA inventory.

Health & Safety Reporting List
  None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
  None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
  None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
  None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
  None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
  None of the chemicals in this product have a TPQ.

SARA Codes
  CAS # 544-17-2: immediate.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:
  This material does not contain any hazardous air pollutants.
  This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**
- None of the chemicals in this product are listed as Hazardous Substances under the CWA.
- None of the chemicals in this product are listed as Priority Pollutants under the CWA.
- None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
- None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
- CAS# 544-17-2 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**
- XI

**Risk Phrases:**
- R 36/38 Irritating to eyes and skin.

**Safety Phrases:**
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 37/39 Wear suitable gloves and eye/face protection.

**WGK (Water Danger/Protection)**
- CAS# 544-17-2: 1

**Canada - DSL/NDSL**
- CAS# 544-17-2 is listed on Canada's DSL List.

**Canada - WHMIS**
- This product has a WHMIS classification of D2B.
- This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**
- CAS# 544-17-2 is listed on the Canadian Ingredient Disclosure List.

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**Section 16: Other Information**

**MSDS Creation Date:** 6/16/2000

**Revision #4 Date:** 3/15/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Chemtrade International be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Chemtrade International has been advised of the possibility of such damages.