



**MATERIAL SAFETY DATA SHEET  
FOR TC ECONO– INHIBITED SODIUM/CALCIUM CHLORIDE**

February, 2009

**A. GENERAL INFORMATION**

Trade Name (Common Name or Synonym) - Tc Econo– Inhibited Sodium/Calcium Chloride  
Chemical Name & Synonyms: Sodium Chloride and Calcium Chloride Brine with Corrosion Inhibitor  
Formula NaCl/CaCl<sub>2</sub>  
Uses Anti-icer, freeze-proofing and thawing coal, coke, stone, sand, ore.  
Manufacturer Tiger Calcium Services Inc.  
10350-21 Street  
Edmonton, Alberta, Canada T6P 1W4

**B. COMPOSITION INFORMATION ON INGREDIENTS**

	<u>CAS. Reg. No.</u>	<u>Approx %</u>
Sodium Chloride	007647-14-5	18-21%
Calcium Chloride	010043-52-4	2-5%
Magnesium Chloride	007791-18-6	0.2-0.5 %
Potassium Chloride	007447-40-7	0-2%
Corrosion Inhibitors		Proprietary
Water	007732-18-5	0-80%

**C. HAZARDS IDENTIFICATION**

**EYE:** At high concentrations may cause lacrimation (tearing) and irritation. Material may be handled at elevated temperatures; contact with heated material may cause thermal burns. May cause severe irritation with corneal injury. Effects may be slow to heal.

**SKIN:** Short single exposure is not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if confined to skin or skin is abraded (scratched or cut). Material may be handled at elevated temperatures; contact with heated material may cause thermal burns. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. Not classified as corrosive with TDG Act and Regulations.

**INGESTION:** Single dose oral toxicity is believed to be low. Small amounts swallowed incidental to normal handling procedures are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration.

**INHALATION:** Vapors are unlikely due to physical properties. Mists may cause irritation to upper respiratory tract.



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Nisku, Alberta T9E 7M6 Canada  
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**SYSTEMATIC (OTHER TARGET ORGAN) EFFECTS:**

No relevant information found.

**D. FIRST AID**

**EYES:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately

**SKIN:** Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

**INGESTION:** Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

**INHALATION:** Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**E. FIRE FIGHTING MEASURES:**

**GENERAL INFORMATION:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.

**FLAMMABILITY LIMITS:** LFL: Not Applicable UFL: Not Applicable.

**HAZARDOUS COMPOSITION PRODUCTS:** Not Applicable.

**EXTINGUISHING MEDIA:** This material does not burn. If exposed fire from another source, use suitable extinguishing agent for that fire.

**FIRE FIGHTING INSTRUCTIONS:** Keep people away. Isolate fire area and deny any unnecessary entry.

**PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:** Wear positive pressure self contained breathing apparatus (SCBA) and full protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves).

**F. ACCIDENTAL RELEASE MEASURES**

**PROTECT PEOPLE:** Isolate area. Avoid contact with eye and skin. May be a slipping hazard. Stop leak if it can be done safely. Wash exposed body areas thoroughly after handling. Use appropriate safety equipment.



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**PROTECT THE ENVIRONMENT:** For **small spills:** losses incidental to correct applications of this product in it's intended uses are not expected to be harmful to the environment.  
For **large spills:** avoid contamination of drinking water, natural water, ground water, or any waterway. Losses incidental to correct applications of this product in it's intended uses are not expected to be harmful to the environment.

**CLEANUP:** For **small spills:** contain spill if possible. Absorb with material such as sand. Collect material in suitable and properly labeled containers. Flush residue with plenty of water.  
For **large spills:** dike and transfer to suitable and properly labeled containers. Absorb with material such as sand. Flush residue with plenty of water.

## G. HANDLING AND STORAGE

**HANDLING:** Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Do not ingest or inhale. Product shipped/handled hot can cause thermal burns. Selection of specific items such as gloves, boots, apron, or other, will depend on each operation. If hands are cut or scratched, use gloves impervious to this material for brief exposures. Use gloves with insulation for thermal protection, when needed.

**RESPIRATORY PROTECTION:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In misty atmospheres, use an approved mist respirator.

**EXPOSURE GUIDELINES:** Calcium Chloride 10 mg/m<sup>3</sup>  
Sodium Chloride 10 mg/m<sup>3</sup>  
Potassium Chloride 10 mg/m<sup>3</sup>

## H. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE/PHYSICAL STATE:** Brown liquid.  
**ODOR:** Slight pleasant odor to sulfur order  
**VAPOR PRESS:** 7 – 15 mmHg @ 25C, 77F  
**VAPOR DENSITY:** Same as water.  
**BOILING POINT:** 120 °C.  
**CRYSTALLIZATION TEMPERATURE** -21°C  
**SOLUBILITY IN WATER:** Completely miscible  
**SPECIFIC GRAVITY:** 1.18– 1.30 @ 25C/70F

## I. STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable. Slightly Hygroscopic.

**CONDITIONS TO AVOID:** Temperature >170 °C



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**MATERIALS TO AVOID:** Attack aluminum / yellow brass; react with sulfuric acid and zinc.

**HAZARDOUS DECOMPOSITION** Hydrogen chloride, toxic fumes of sodium oxide.

**HAZARDOUS POLYMERIZATION:** Will not occur.

#### J. TOXOCOLOGICAL INFORMATION

**ACUTE:** **CAS#** 7647-14-5: VZ4725000  
**LD50/LC50:**  
**CAS#** 7647-14-5:  
Oral, mouse: LD50 = 4 gm/kg;  
Oral, rat: LD50 = 3 gm/kg; <BR.Skin: The LD50 for skin absorption in rabbits is >5000 mg/kg for CaC<sub>12</sub>.

**INGESTION (100%) :** The oral LD50 for rats is in the range of 900 – 2100 mg/kg for CaC<sub>12</sub>.

**MUTAGENICITY:** Human mutation data reported. EPA Genotox program '88, negative : in vitro cytogenetics-nonhuman; sperm morphology-musEPA Genotox program '88, inconclusive : mammalian micronucleusoms-esc : 150 mmol/Immo-smc : 2 mmol/Idni-hmn-fbr : 125 mmol/Idns-ori-rat : 16800 mg/kg/4Wcyt-ipr-rat : 2338 mg/kgdnd-mus-lym : 101 mmol/Imsc-mus-lym : 57200 5mol/Imnt-ham-Ing : 4 gm/Idnd-ham-ovr : 275 mmol/lcyt-ham-ovr : 160 mmol/lcyt-ham-Ing : 7500 mg/l  
For CaC<sub>12</sub>, in vitro mutagenicity studies were negative.

#### K. ECOLOGICAL INFORMATION

**ECOTOXICOLOGY:** Based largely or completely on data for major component(s), material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species).

#### L. DISPOSAL CONSIDERATIONS

**DISPOSAL:** Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Tiger Calcium Services Inc. encourages that disposal methods be utilized in accordance with the above noted. For unused or contaminated product, the preferred options include sending the material to a licensed, permitted, reclaimer or waste water treatment system.

#### M. TRANSPORTATION REQUIREMENTS

**US and Canadian Shipments:**



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**Proper Shipping Name:** Salt Brine (liquid)

**Hazard Classification:** Not regulated when shipped domestically by land.

**TRANSPORTATION EMERGENCIES:**

<b>N. REGULATORY INFORMATION</b>
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**WHMIS:** The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is: D2B – eye and skin irritant.

**Notice:** The data and information presented herein are based upon tests, research and reports which are considered by us to be reliable and believed to be accurate. The data and information are presented without warranty, guarantee or liability on our part, and are presented to the customer for his own consideration, investigation and verification.