

SMOKY LAKE COUNTY



| | |
|--|----------------------------|
| Title: Risk Control: Calcium Chloride | Policy No.: C.01-01 |
| Section: 14 | Page No.: 1 of 3 |

| | |
|-------------------------------|--|
| Legislation Reference: | Municipal Government Act, Chapter M26.1 – Section 201. |
|-------------------------------|--|

| | |
|-----------------|--|
| Purpose: | To provide a risk assessment for the usage of calcium chloride on County roadways. |
|-----------------|--|

Policy Statement and Guidelines:

1. Definition

Calcium Chloride: A treatment for road surfaces that can be applied for a number of reasons, including safety considerations, dust control, road stabilization and aesthetics.

2. Uses for Calcium Chloride

- 2.1 Dust Control on unpaved roads.
- 2.2 Base stabilization for road way construction.
- 2.3 Freeze-proofing sand for winter road application.
- 2.4 Sewage purification aid, flocculent removal of phosphates and fluorides.
- 2.5 Environmental additive for cement kilns.
- 2.6 Nitrogen inhibitor for fertilizers.
- 2.7 Salt substitute for animal feed.

3. Dust Control: Safety a Primary Concern

- 3.1 Dust is an increasing health concern.
- 3.2 Increasing number of cases of asthma, congestion and respiratory problems.
- 3.3 Dust contributes to reduced visibility on roads.

| | |
|--|----------------------------|
| Title: Risk Control: Calcium Chloride | Policy No.: C.01-01 |
| Section: 14 | Page No.: 2 of 3 |

Policy Statement and Guidelines:

4 Environment Impact of Calcium Chloride

- 4.1 Calcium Chloride is one of the most environmentally friendly dust control products on the market.
- 4.2 Calcium Chloride is the only product approved to be applied in Canadian National parks and meets the strictest environmental regulations.
- 4.3 An environmental impact study done by the Ontario Ministry of Environment and Energy, gave calcium chloride the lowest toxicity rating. This report is entitled: “A Study of Dust Suppressants in Ontario – Final Report”.
- 4.4 Calcium Chloride is odorless, colorless and non-flammable. Under current law does not require “hazardous material” placarding.

5. Summary

Calcium Chloride poses a very low risk factor when used by the County in the following processes:

- 5.1 **Dust Control:** To reduce respiratory problems and improve visibility on roads.
- 5.2 **Road Structure Stability:** A Chemical reaction between CaCl₂ ions and clay particles in the soil structure makes an attraction force between clay particles. The binding ability reduces dust and increases road stability.
- 5.2.1 **Caution Notes:** Do not apply Calcium Chloride on roadways with little or no gravel; as slippery conditions will prevail when rain occurs.

Calcium Chloride is non-toxic, but may cause some retardation of growth of sensitive vegetation.

| | |
|--|----------------------------|
| Title: Risk Control: Calcium Chloride | Policy No.: C.01-01 |
| Section: 14 | Page No.: 3 of 3 |

| Policy Statement and Guidelines: | |
|---|---|
| 5.3 | <p><u>Snow and Ice Control and Freeze Proofing Winter Sand:</u></p> <p>CaCl₂ is a product of exothermic reaction, releasing heat as it reacts to speed, the de-icing process. In addition, this reaction attracts moisture to assist in salts melting action.</p> <p>Calcium Chloride is an effective agent to deal with snow and ice on roadways both prior to and after snowfalls. Calcium Chloride can also be used to freeze proof sand in order to ensure free flowing in winter conditions.</p> |

| | Date | Resolution Number |
|-----------------|--------------------------|-------------------------------|
| Approved | November 30, 2000 | # 92 - Page # 6981 |
| Amended | May 10, 2007 | # 349-07 - Page # 8342 |
| Amended | | |