



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Product Name** Cal-Green (4190)  
**CAS #** Mixture  
**Product use** Condenser Coil Cleaner / Degreaser  
**Manufacturer** Nu-Calgon  
2008 Altom Court  
St. Louis, MO 63146 US  
Phone: 314-469-7000 / 800-554-5499  
Emergency Phone: 1-800-424-9300 (CHEMTREC)

## 2. Hazards Identification

**Emergency overview** CAUTION  
MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.  
MAY CAUSE RESPIRATORY TRACT IRRITATION.

**Potential short term health effects**

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.

**Eyes** May cause irritation.

**Skin** May cause irritation.

**Inhalation** May cause respiratory tract irritation.

**Ingestion** May cause stomach distress, nausea or vomiting.

**Target organs** Eyes. Skin.

**Chronic effects** Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms** Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**OSHA Regulatory Status** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential environmental effects** Components of this product have been identified as having potential environmental concerns.

## 3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium citrate	68-04-2	1 - 5
Alcohols, C9-11, ethoxylated	68439-46-3	0.5 - 1.5

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

**Skin contact** Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.

**Inhalation** If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

**Ingestion** Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

**Notes to physician** Symptoms may be delayed.

**General advice** If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

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## 5. Fire Fighting Measures

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<b>Flammable properties</b>	Not flammable by WHMIS/OSHA criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Dry chemical. Alcohol foam. Carbon dioxide. Fog.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of nitrogen. Oxides of carbon. Ammonia.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

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## 6. Accidental Release Measures

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<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters.
<b>Methods for containment</b>	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for cleaning up</b>	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

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## 7. Handling and Storage

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<b>Handling</b>	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Avoid contact with skin and clothing. Avoid contact with eyes. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid breathing vapors or mists of this product.
<b>Storage</b>	Keep out of reach of children. Store in a closed container away from incompatible materials.

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## 8. Exposure Controls / Personal Protection

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<b>Exposure limits</b>	
<b>Ingredient(s)</b>	<b>Exposure Limits</b>
Alcohols, C9-11, ethoxylated	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium citrate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
<b>Engineering controls</b>	General ventilation normally adequate.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Wear safety glasses with side shields.
<b>Hand protection</b>	Rubber gloves. Confirm with a reputable supplier first.
<b>Skin and body protection</b>	As required by employer code.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

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## 9. Physical and Chemical Properties

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Appearance	Liquid.
Color	Colorless
Form	Liquid
Odor	Characteristic, Mild
Odor threshold	Not available
Physical state	Liquid
pH	9 (Concentrate)
Melting point	Not available
Freezing point	32.00 °F (0 °C)
Boiling point	212.00 °F (100 °C)
Pour point	Not available
Evaporation rate	As for water
Flash point	None to boiling
Auto-ignition temperature	None
Flammability limits in air, lower, % by volume	None
Flammability limits in air, upper, % by volume	None
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.035
Octanol/water coefficient	Not available
Solubility (H2O)	Complete
Viscosity	Less than 5 cps
Percent volatile	90

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## 10. Stability and Reactivity

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Reactivity	This product may react with oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Oxides of carbon. Ammonia.

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## 11. Toxicological Information

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**Acute effects** Information in this section is based on individual component information and not based on overall formula testing data.  
Please note that the below values are calculated.

Acute LC50: 455 mg/l/4h, Rat, Inhalation  
Acute LD50: 8987 mg/kg, Rat, Oral  
Acute LD50: 38462 mg/kg, Rat, Dermal

### Component analysis - LC50

Ingredient(s)	LC50
Alcohols, C9-11, ethoxylated	5 mg/l/4h rat
Sodium citrate	Not available

### Component analysis - Oral LD50

Ingredient(s)	LD50
Alcohols, C9-11, ethoxylated	1200 mg/kg rat
Sodium citrate	5000 mg/kg rat

### Effects of acute exposure

**Eye** May cause irritation.

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<b>Skin</b>	May cause irritation.
<b>Inhalation</b>	May cause respiratory tract irritation.
<b>Ingestion</b>	May cause stomach distress, nausea or vomiting.
<b>Sensitization</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Carcinogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Mutagenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Name of Toxicologically Synergistic Products</b>	Not available

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## 12. Ecological Information

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**Ecotoxicity** Information in this section is based on individual component information and not based on overall formula testing data. Components of this product have been identified as having potential environmental concerns.

**Ecotoxicity - Freshwater Algae - Acute Toxicity Data**

Sodium citrate 68-04-2 96 Hr EC50 Chlorella vulgaris: 18000 - 32000 mg/L

**Ecotoxicity - Freshwater Fish - Acute Toxicity Data**

Sodium citrate 68-04-2 96 Hr LC50 Poecilia reticulata: 18000-32000 mg/L

**Ecotoxicity - Water Flea - Acute Toxicity Data**

Sodium citrate 68-04-2 48 Hr EC50 Daphnia magna: 5600 - 10000 mg/L

<b>Persistence / degradability</b>	This product has not been tested. Alcohols, C9-11, ethoxylated (CAS# 68439-46-3) is readily biodegradable as per OECD 301D.
<b>Bioaccumulation / accumulation</b>	This product has not been tested.
<b>Mobility in environmental media</b>	This product has not been tested.
<b>Environmental effects</b>	This product has not been tested.
<b>Aquatic toxicity</b>	This product has not been tested.
<b>Partition coefficient</b>	This product has not been tested.
<b>Chemical fate information</b>	This product has not been tested.
<b>Other adverse effects</b>	This product has not been tested.

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## 13. Disposal Considerations

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<b>Disposal instructions</b>	Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

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## 14. Transport Information

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**U.S. Department of Transportation (DOT)**  
Not regulated as dangerous goods.

**Transportation of Dangerous Goods (TDG - Canada)**  
Not regulated as dangerous goods.

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## 15. Regulatory Information

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<b>Canadian federal regulations</b>	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
<b>WHMIS status</b>	Controlled
<b>WHMIS classification</b>	Class D - Division 2B

**WHMIS labeling**



**Occupational Safety and Health Administration (OSHA)**

29 CFR 1910.1200 hazardous chemical Yes

**US Federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**CERCLA (Superfund) reportable quantity**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Clean Air Act (CAA)** Not available

**Clean Water Act (CWA)** Not available

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Inventory name**

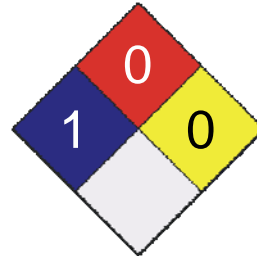
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 1
Flammability	0
Physical Hazard	0
Personal Protection	X



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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**Prepared by** Nu-Calgon Technical Service (314) 469-7000

**Other information** For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.