



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name Cal-Green (4190-01, 4190-08)
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 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, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

3. Composition/Information on Ingredients

Components	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.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS criteria.

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

6. Accidental Release Measures

Personal precautions	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.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	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.

7. Handling and Storage

Handling	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 vapours or mists of this product.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls/Personal Protection

Exposure limits	Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.
Engineering controls	General ventilation normally adequate.
Personal protective equipment	
Eye/Face protection	Wear safety glasses with side shields.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practices. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Liquid
Colour	Colourless
Form	Liquid
Odour	Characteristic, Mild
Odour threshold	Not available.
Physical state	Liquid.

pH	9 (Concentrate)
Freezing point	0 °C (32 °F)
Boiling point	100 °C (212 °F)
Pour point	Not available.
Evaporation rate	As for water
Flash point	None to boiling
Auto-ignition temperature	None
Flammability Limits in Air, Upper, % by Volume	None
Flammability Limits in Air, Lower, % by Volume	None
Heat of combustion	Not available.
Vapour pressure	Not available
Vapour density	Not available
Specific gravity	1.035
Partition coefficient (n-octanol/water)	This product has not been tested.
Solubility (Water)	Complete
Relative density	Not available.
Viscosity	Less than 5 cps
VOC	Not available
Percent volatile	90

10. Stability and Reactivity

Reactivity	This product may react with oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerisation 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.

11. Toxicological Information

Toxicological data

Components	Species	Test results
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2000 mg/kg
	Rat	2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	5 mg/l/4h
<i>Oral</i>		
LD50	Rat	1200 mg/kg
Sodium citrate (CAS 68-04-2)		
Acute		
<i>Dermal</i>		
LD50	Rat	5000 mg/kg
<i>Inhalation</i>		
LC50	Not available	

Components	Species	Test results
Oral LD50	Rat	5000 mg/kg
Effects of acute exposure		
Eye contact	May cause irritation.	
Skin contact	May cause irritation.	
Inhalation	May cause respiratory irritation.	
Ingestion	May cause stomach distress, nausea or vomiting.	
Sensitisation	Non-hazardous by WHMIS criteria.	
Chronic effects	Non-hazardous by WHMIS criteria.	
Carcinogenicity	Non-hazardous by WHMIS criteria.	
Mutagenicity	Non-hazardous by WHMIS criteria.	
Reproductive effects	Non-hazardous by WHMIS criteria.	
Teratogenicity	Non-hazardous by WHMIS criteria.	
Name of Toxicologically Synergistic Products	Not available.	

12. Ecological Information

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.

Ecotoxicological data

Components	Species	Test results
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)		
Fish	Rainbow trout	70.7 mg/l, 96 Hours
Aquatic		
Crustacea	EC50 Water flea (Daphnia magna)	2.9 - 8.5 mg/l, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	6 - 12 mg/l, 96 hours
Sodium citrate (CAS 68-04-2)		
Crustacea	EC50 Daphnia	7800 mg/L, 48 Hours
Aquatic		
Crustacea	EC50 Water flea (Ceriodaphnia dubia)	655 - 825.9 mg/l, 48 hours

Persistence and degradability This product has not been tested.
Alcohols, C9-11, ethoxylated (CAS# 68439-46-3) is readily biodegradable as per OECD 301D.

Bioaccumulation/accumulation This product has not been tested.

Mobility in environmental media This product has not been tested.

Environmental effects This product has not been tested.

Aquatic toxicity This product has not been tested.

Partition coefficient This product has not been tested.

Chemical fate information This product has not been tested.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not available

Contaminated packaging Not available

14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations 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.

WHMIS status Controlled

WHMIS Classification Class D - Division 2B

WHMIS labeling



Inventory status

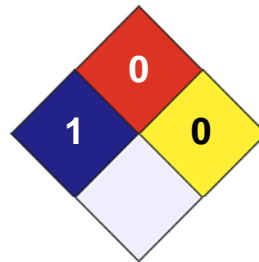
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

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

16. Other Information

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