Material Safety Data Sheet: GRENADIER PLUS, CM

Supercedes Date 05/10/2010 **Issuing Date** 03/21/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name GRENADIER PLUS, CM
Recommended use Disinfectants and general biocidal products
Information on Manufacturer
CERTIFIED LABS, DIV. OF NCH CORP.
BOX 152170
IRVING, TEXAS 75015

Product Code 0909
Chemical nature Aqueous solution
Emergency Telephone Number
CHEMTREC® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
DANGER
Corrosive
Causes skin and eye burns
Harmful if inhaled and may cause delayed lung injury
Harmful or fatal if swallowed

Color Yellow **Physical State** Liquid **Odor** Pleasant

Potential Health Effects

Principle Route of Exposure	Skin contact, Eye contact, Inhalation, (mist).
Primary Routes of Entry	None known
Acute Effects	
Eyes	Corrosive to the eyes and may cause severe damage including blindness.
Skin	Causes skin burns.
Inhalation	Harmful by inhalation. Causes burns.
Ingestion	If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Chronic Toxicity	Inhaled corrosive substances can lead to a toxic edema of the lungs.
Target Organ Effects	Respiratory system, Eyes, Skin.
Aggravated Medical Conditions	Skin disorders, Respiratory disorders.
Potential Environmental Effects	See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Alcohols, C 12-14 secondary, ethoxylated	84133-50-6
Sodium carbonate	497-19-8
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	85409-23-0
Alkyl dimethyl benzyl ammonium chloride (C12-18)	68391-01-5
Tetrasodium ethylenediaminetetraacetate	64-02-8

4. FIRST AID MEASURES

General Advice	Do not get in eyes, on skin or on clothing. Do not breathe vapors or spray mist.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.
Skin Contact	Remove immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.
Inhalation	Move to fresh air. If breathing has stopped, apply artificial respiration. In case of shortness of breath, give oxygen. Get medical attention immediately.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Notes to physician	The product causes burns of eyes, skin and mucous membranes. Control of circulatory system, shock therapy if needed.

5. FIRE-FIGHTING MEASURES

Flash Point > 201 °F / > 94 °C **Method** Seta closed cup
Autoignition Temperature No information available.
Flammability Limits in Air % Mixture. **Upper** 75 **Lower** 4
Suitable Extinguishing Media
Water spray. Carbon dioxide (CO2). Foam. Alcohol-resistant foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards arising from the chemical
Contact with metals may evolve flammable hydrogen gas. Material can create slippery conditions.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	**Health** 3	**Flammability** 1	**Instability** 0
HMIS	**Health** 3	**Flammability** 1	**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.

Environmental Precautions Do not flush into surface water or sanitary sewer system.

Methods for Containment Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning Up Pick up and transfer to properly labeled containers.

Neutralizing Agent None known.

7. HANDLING AND STORAGE

Handling Do not get in eyes, on skin or on clothing. Do not breathe vapors or spray mist.

Storage Keep container tightly closed in a dry and well-ventilated place. Metal containers must be lined. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

Storage Temperature **Minimum** 35 °F / 2 °C **Maximum** 120 °F / 49 °C

Storage Conditions **Indoor** X **Outdoor** X **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Alcohols, C 12-14 secondary, ethoxylated	No data available	No data available	No data available
Sodium carbonate	No data available	No data available	No data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	No data available	No data available	No data available
Alkyl dimethyl benzyl ammonium chloride (C12-18)	No data available	No data available	No data available
Tetrasodium ethylenediaminetetraacetate	No data available	No data available	No data available

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles. Face-shield.

Skin Protection Wear suitable protective clothing, Impervious gloves.

Respiratory Protection In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Viscosity**	Non viscous
Color	Yellow	**Odor**	Pleasant
Appearance	Transparent	**pH**	12
Specific Gravity	1.043	**Evaporation Rate**	0.66 (BuAc = 1)
Percent Volatile (Volume)	91.1	**VOC Content (%)**	0.2
VOC Content (g/L)	2.0	**Vapor Pressure**	16.6 mmHg @ 70°F
Vapor Density	0.6 (Air = 1.0)	**Solubility**	Completely soluble
Boiling Point/Range	224 °F / 107 °C		

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions. Hazardous polymerization does not occur.

Conditions to Avoid Heat, flames, and sparks

Incompatible Products Oxidizing agents, Reducing agents, Acids, Bases, Powdered metals, Contact with metals liberates hydrogen gas.

Hazardous Decomposition Products Carbon oxides, Nitrogen oxides (NOx), Sodium oxides, Ammonia, Amines, Hydrogen chloride gas.

Possibility of Hazardous Reactions None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Alcohols, C 12-14 secondary, ethoxylated	no data available	no data available	no data available	no data available	no data available

Sodium carbonate	= 4090 mg/kg (Rat)	no data available	no data available	no data available	no data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	no data available
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	no data available
Tetrasodium ethylenediaminetetraacetate	= 10 g/kg (Rat)	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Alcohols, C 12-14 secondary, ethoxylated	no data available	no data available	no data available	no data available	respiratory system
Sodium carbonate	no data available	no data available	no data available	no data available	no data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	no data available
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	no data available
Tetrasodium ethylenediaminetetraacetate	no data available	no data available	no data available	no data available	no data available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Alcohols, C 12-14 secondary, ethoxylated	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium carbonate	not applicable	not applicable	not applicable	not applicable	not applicable
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	not applicable	not applicable	not applicable	not applicable	not applicable
Alkyl dimethyl benzyl ammonium chloride (C12-18)	not applicable	not applicable	not applicable	not applicable	not applicable
Tetrasodium ethylenediaminetetraacetate	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information Toxic to aquatic organisms

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Alcohols, C 12-14 secondary, ethoxylated	no data available	LC50 = 3.2 mg/L Pimephales promelas 96 h	no data available	EC50= 3.2 mg/L 48 h	N/A
Sodium carbonate	EC50 = 242 mg/L Nitzschia 120 h	LC50 310 - 1220 mg/L Pimephales promelas 96 h LC50 = 300 mg/L Lepomis macrochirus 96 h	no data available	EC50= 265 mg/L 48 h	N/A
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	N/A
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	N/A
Tetrasodium ethylenediaminetetraacetate	EC50 = 1.01 mg/L Desmodesmus subspicatus 72 h	LC50 = 41 mg/L Lepomis macrochirus 96 h LC50 = 59.8 mg/L Pimephales promelas 96 h	no data available	EC50= 610 mg/L 24 h	N/A

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of contents/container in accordance with local regulation. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency.

Container Disposal Do not re-use empty containers. Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Corrosive liquids, n.o.s.
Hazard Class 8
UN-No UN1760
Packing Group III
Description Corrosive liquids, n.o.s.(Quaternary Ammonium Compound),8,UN1760,PG III

TDG

Proper shipping name Corrosive liquid, n.o.s.
Hazard Class 8
UN-No UN1760
Packing Group III

Description CORROSIVE LIQUID, N.O.S., (Quaternary Ammonium Compound),8,UN1760,PG III

ICAO

UN-No UN1760
Proper Shipping Name Corrosive liquid, n.o.s.*
Hazard Class 8
Packing Group III
Shipping Description Corrosive liquid, n.o.s., (Quaternary Ammonium Compound),8,UN1760,PG III

IATA

UN-No UN1760
Proper Shipping Name Corrosive liquid, n.o.s.*
Hazard Class 8
Packing Group III
ERG Code 8L
Shipping Description UN1760,Corrosive liquid, n.o.s., (Quaternary Ammonium Compound),8,PG III

IMDG/IMO

Proper Shipping Name Corrosive liquid, n.o.s.
Hazard Class 8
UN-No UN1760
Packing Group III
EmS No. F-A, S-B
Shipping Description UN1760, Corrosive liquid, n.o.s., (Quaternary Ammonium Compound),8,PG III

15. REGULATORY INFORMATION

Inventories
TSCA Complies
DSL Complies

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Alcohols, C 12-14 secondary, ethoxylated	Not applicable	Not applicable
Sodium carbonate	Not applicable	Not applicable
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	Not applicable	Not applicable
Alkyl dimethyl benzyl ammonium chloride (C12-18)	Not applicable	Not applicable
Tetrasodium ethylenediaminetetraacetate	Not applicable	Not applicable

Canada

This product is exempt from WHMIS due to PCP registration

WHMIS Hazard Class
Exempt

16. OTHER INFORMATION

Prepared By Rachael Mohochi
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Reason for Revision No information available.
Glossary No information available.
List of References. No information available.

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