

SECTION 1 IDENTIFICATION

Product Trade Name: 40 Krystal Green CW2
Recommended Use: Glass and surface cleaner for CW2 dispensing system
Restrictions on Use: For Industrial, Institutional and Food Plant use only
Manufacturer: Maxim Chemical International Inc.
 1607 Derwent Way, Delta, BC, V3M 6K8, Canada
 800-663-9925
Emergency Phone Number/ 24-Hour Number: Canada: Canutec 613-996-6666
 U.S.A.: Chemtrec 800-424-9300

SECTION 2 HAZARD IDENTIFICATION

Physical Hazards: None
Health Hazards: ACUTE TOXICITY ORAL- Category 4
 SKIN CORROSION/IRRITATION - Category 1
 EYE DAMAGE/IRRITATION - Category 1

Label Elements:

Signal word: Danger
Hazard Statement: H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H302 Harmful if swallowed.

Precautionary Statements:

Prevention: P264 Wash hands and affected area thoroughly after handling.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Responses: P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
 P330 Rinse mouth.
 P303 + P361 + P533 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
 Rinse skin with water [or shower].
 P363 Wash contaminated clothing before reuse.
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310 Immediately call a POISON CENTER/doctor.
 P321 Specific treatment (see supplemental FIRST AID on this label).
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage: P405 Store locked up.
Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Approx. Wt.%	CAS Number
Monoethanolamine	10-30	141-43-5
Ammonium Hydroxide	1-5	7664-41-7

SECTION 4 FIRST-AID MEASURES

Inhalation: Immediately remove the affected victim to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Immediately flush exposed area with soap and water for at least 10 minutes. If irritation persists, or if contact has been prolonged, obtain medical attention. Remove contaminated clothing and launder before reuse.
Eye Contact: Immediately flush with warm running water for at least 15 minutes, holding eyelids open during flushing. Remove contact lenses, if present and easy to do. If irritation persists, repeat flushing and obtain medical attention immediately.
Ingestion: Do not induce vomiting. If the victim is fully conscious, give plenty of clean water to drink to dilute product. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing. Call a Physician.

Note to physician: Treatment based on sound judgment of physician and individual reactions of patient. Due to structural analogy and clinical data, this material may have a mechanism of intoxication similar to ethylene glycol. On that basis, treatment similar to ethylene glycol intoxication may be of benefit. In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing Media:	Water fog, alcohol foam, or dry chemical.
Flammability:	Not flammable.
Flash Point:	Not flammable.
Special Firefighting Procedures:	Wear NIOSH/MSHA approved, self-contained breathing apparatus for firefighting situation. Use water spray to cool all nearby fire exposed surfaces.
Unusual Fire / Explosion Hazards:	Explosive products are formed by the reaction of ammonia with silver chloride, silver oxide, bromine, iodine, gold, mercury, tellurium halides. This material may produce a floating fire hazard in extreme fire conditions. This product can produce flammable vapors which may travel to a source of ignition and flash back. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Hazardous Decomposition Products:	Nitrogen oxides, ammonia. Carbon monoxide, carbon dioxide. The smoke may contain unidentified toxic and/or irritating compounds.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Environmental Protection Precautions: Do not release to the environment or water source.
Steps To Be Taken In Case Material Is Released Or Spilled: Wear protective equipment. Soak up spills with absorbents, then dispose of in an appropriate waste container. Keep material away from sewers. Reuse if possible. Otherwise dispose recovered material in accordance with all local, State or Federal regulations.

SECTION 7 HANDLING AND STORAGE

Precautions To Be Taken In Handling And Storage: Use good industrial hygiene. Do not get in eyes. Avoid contact with skin and clothing. Avoid breathing sprays or mists. Store in a cool, dry place away from incompatibles. Keep container closed when not in use. Do not mix with any other chemicals. Store at temperatures below 30°C (86°F) and keep from freezing. Do not store in aluminum, copper, copper alloys and galvanized containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:
 OSHA (PEL): N/A
 ACGIH TLV: N/A

Other exposure limit: N/A

Appropriate Engineering Controls: Good general ventilation.

Individual Protection Measures / Personal Protective Equipment:

Gloves: Non-permeable gloves (rubber, nitrile) recommended.

Masks/Goggles: Use chemical goggles or safety glasses when eye contact may occur.

Respirator: Good general ventilation or local exhaust ventilation for spraying and misting in confined areas.

Apron: Not required for normal use of product.

Boots: Not required for normal use of product.

Other Protective Equipment: Eye wash, safety shower and full protective clothing recommended in the immediate work area.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark green liquid.
Odor:	Floral/ ammonia scent.
Odor threshold:	N/A
pH:	10.5-11.5
Melting point/Freezing point:	N/A
Initial boiling point and boiling range:	N/A
Flash Point:	None to 100 °C
Evaporation Rate (Water=1):	N/A
Flammability:	Not flammable
Upper/Lower flammability or explosive limits:	None.
Vapor pressure:	N/A
Vapor density:	N/A
Relative density/Specific gravity (Water = 1):	0.96 @ 20 °C
Solubility(ies):	Soluble in water
Partition coefficient: n-octanol/water:	N/A
Auto-ignition temperature:	Not flammable
Decomposition temperature:	N/A
Viscosity:	N/A

SECTION 10 STABILITY AND REACTIVITY

Chemical stability:	Stable under normal storage conditions.
Possibility of hazardous reactions:	Adding sodium hydroxide to this material and or heating will volatilize ammonia gas. Contact with iodine, bromine, calcium, hypochlorite mixtures, contact with halogens may cause violent splattering. Explosive products are formed by the reaction of ammonia with silver chloride, silver oxide, bromine, iodine, gold, mercury, tellurium halides.
Conditions to avoid:	Temperatures above 30°C (86°F) and below 5°C (41°F). Avoid contact with copper, zinc, tin, aluminum and alloys. Avoid nitric acid, fluorine, chlorine. Avoid strong oxidizers, strong acids, halogens, mineral acids.
Incompatibility:	Ammonia is incompatible or has potentially hazardous reactions with silver, acetaldehyde, acrolein, boron, halogens, perchlorate, chloric acid, chlorine monoxide, chlorides, nitrogen tetroxide, tin, sulphur. cultures.
Hazardous Decomposition Products:	Oxides of carbon.

SECTION 11 TOXICOLOGICAL INFORMATION

Likely routes of exposure:	Ingestion, skin and eye contact.
Symptoms:	Irritation to eyes and skin.
Acute Toxicity Estimates:	Acute Toxicity Oral Category 4 – 432 mg/kg, dermal N/A
Carcinogenicity:	Not listed by NTP, IARC, OSHA, ACGIH.
Ethylene Glycol Monobutyl Ether:	
LD ₅₀ (oral rabbit):	320 mg/kg – Acute Toxicity Oral Category 4

LD ₅₀ (dermal rabbit):	99 mg/kg – Acute Toxicity Dermal Category 2
LC ₅₀ (inhalation rat):	450 ppm, 4hr – Acute Toxicity Inhalation Category N/A
Monoethanolamine:	
LD ₅₀ (oral rat):	1720 mg/kg – Acute Toxicity Oral Category 4
LD ₅₀ (dermal rabbit):	1000 mg/kg – Acute Toxicity Dermal Category 3
Ammonium Hydroxide:	
LD ₅₀ (oral rabbit):	350 mg/kg – Acute Toxicity Oral Category 4
LD ₅₀ (inhalation rat):	2000 ppm, 4hr – Acute Toxicity Inhalation Category N/A

SECTION 12 ECOLOGICAL INFORMATION

Not required.

SECTION 13 DISPOSAL CONSIDERATIONS

Recommended Waste Disposal Methods: Reuse if possible. Otherwise dispose recovered material in accordance with all local, State or Federal regulations.

SECTION 14 TRANSPORT INFORMATION

Canadian TDG

UN Number:	1760 (Limited Quantity)
UN Proper Shipping Name:	CORROSIVE LIQUID, N.O.S. (ethanolamine)
Transport Hazard Class(es):	8
Packing Group:	III

SECTION 15 REGULATORY INFORMATION

HAZARD RATING INFORMATION

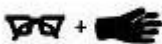
4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant

HMS

2	Health
1	Flammability
0	Reactivity
B	Personal

A=Gloves, B=Goggles & Gloves
C=Goggles, Gloves and Apron

HMIS Protection
Group B



All pertinent hazard information has been provided in this SDS, per the requirements of the U.S. Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, and the Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).

SECTION 16 OTHER INFORMATION

Acronym List:

ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
CW2	Maxim Technology Inc.'s CleanWorks2 Dispensing System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
MSHA	Mine Safety and Health Administration
N/A	Not Available
NIOSH	The National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value

UN United Nations
WHMIS Workplace Hazardous Materials Information System

It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. **Maxim Chemical International Inc.** will accept no liability for damages or loss incurred from the improper handling and use of this product.

The information provided in the Safety Data Sheet has been obtained from current sources and is believed to be reliable.

PREPARED BY: Technical Service/Regulatory Division

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