



SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

Product Name(s): COOLER GUARD, Scale Stop
 Product Code(s): MK47, E2000, E4000, E10000
 Uses: This product is intended for scale control in evaporative coolers and related applications.
 Company: Controlled Release Technologies, Inc.
 Address: 1016 Industry Drive; Shelby, NC 28152; USA
 Telephone Number: (704) 487-0878 Fax Number: (704) 487-0877
 Emergency Telephone Number: ChemTel Inc. 1- (800) 255-3924; + 01 (813) 248-0585 (International)
 Date Issued: September 19, 2013 Date Revised: January 25, 2016
 This SDS complies with the OSHA Hazard Communication Standard 29CFR1910.1200 as revised in May 2012 (GHS). It may not meet requirements in other countries.

SECTION 2 HAZARDS IDENTIFICATION

GHS Classification: **WARNING**
 Carcinogen (Category 2)
 Eye Irritant (Category 2A)
 Skin Irritation (Category 2)
 Repeated Exposure (Category 2)
 Acute Aquatic Toxicity (Category 3)



GHS Hazard Statements: Suspected of causing cancer
 Causes serious eye irritation
 Causes skin irritation
 May cause damage to organs (liver and kidneys) through prolonged or repeated exposure
 Harmful to aquatic life

GHS Precautionary Statements:	<u>Prevention:</u> Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands/skin thoroughly after handling. Do not breathe dust. Avoid release to the environment.	<u>Response:</u> If exposed or concerned: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water/soap. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
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SECTION 2 HAZARDS IDENTIFICATION

Get medical advice/attention if you feel unwell.

Collect spillage.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

GHS

Assessment:

Approximately 1% of this mixture consists of ingredient(s) of unknown acute toxicity.

Approximately 3-7% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.

SECTION 3 COMPOSITION / INGREDIENTS

Component	CAS Number	EC Number	Concentration
Functional polymers	Proprietary	---	55 - 75%
Organic phosphonate	Proprietary	---	10 - 20%
Cocamide diethanolamine	68603-42-9	271-657-0	10 - 25%
Surfactant	Proprietary	---	3 - 7%
Diethanolamine	111-42-2	203-868-0	1 - 3%

Trade Secret Claims: Specific chemical identity and/or exact percentage (concentration) of components has been withheld as a trade secret.

SECTION 4 FIRST AID MEASURES

- First Aid - Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention, if irritation develops.
- First Aid - Skin: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately if irritation or rash develops and/or persists. Wash contaminated clothing before reuse.
- First Aid - Ingestion: If swallowed and feel unwell, call a physician or poison control center. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
- First Aid - Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.
- Important Symptoms / Effects – Acute and Delayed: Tissue inflammation, rash, nausea.
- Advice to Physician: Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

- Extinguishing Media: Treat surrounding material. Water spray, dry chemical, carbon dioxide, or foam is recommended. Carbon dioxide can displace oxygen. Use caution

SECTION 5 FIRE FIGHTING MEASURES

	when applying carbon dioxide in confined spaces.
Specific Hazards:	This product is not combustible. This product may give rise to hazardous vapors in a fire. Vapors/fumes may be irritating, corrosive and/or toxic.
Protective equipment and procedures for fire-fighters:	Wear full protective clothing and self-contained breathing apparatus.
Additional Advice:	None.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill Procedures:	Sweep up spilled material and transfer into suitable containers for recovery or disposal. Finally flush area with water.
Personal Precautions:	Wear suitable protective clothing.
Environmental Precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

SECTION 7 HANDLING AND STORAGE

Handling:	Wear appropriate personal protection (See Section 8) when handling this material. The work area must be equipped with a safety shower and eye wash station. If exposed to the solution, avoid contact with skin and eyes. Wash thoroughly after handling solution.
Storage:	Keep container(s) tightly closed. Use and store this material at temperatures below 60°C (140°F) away from heat, direct sunlight and hot metal surfaces. Keep from freezing. Keep away from any incompatible materials (see Section 10).
Additional Advice:	Store in original container. Store as directed by the manufacturer.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Standards:	Exposure limits are listed below, if they exist.
Functional polymers:	(as Particulates not otherwise regulated) OSHA PEL: 15 mg/m ³ TWA (total). OSHA PEL: 5 mg/m ³ TWA (respirable fraction).
Organic phosphonate:	None.
Cocamide diethanolamine:	None.
Surfactant:	None.
Diethanolamine:	ACGIH: 2mg/m ³ TWA TLV. NIOSH REL: 3 ppm TWA.
Engineering Control Measures:	Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.
Respiratory Protection:	A NIOSH certified air purifying respirator with suitable particulate filtering capability may be used under conditions where airborne concentrations are expected to exceed exposure limits.
Hand Protection:	The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation and skin damage (see glove manufacturer literature for information on permeability).

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Eye Protection:	Approved eye protection (safety glasses with side-shields or goggles) to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Body Protection:	Impervious clothing should be worn as needed to prevent skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	Pale brown
Odor:	Characteristic
Odor Threshold:	Not available.
pH:	Not available.
Melting Point/Range (°C/°F):	Not available.
Boiling Point/Range (°C/°F):	> 100°C / > 212°F
Flash Point (PMCC) (°C/°F):	> 134°C / > 273.2°F
Evaporation Rate:	Not available.
Flammability / Explosivity Limits in Air (%):	Not available.
Vapor Pressure:	Negligible (< 1 mmHg)
Vapor Density (Air = 1):	Not available.
Relative Density:	1.2 g/cm ³ (25°C)
Solubility in Water:	Partly soluble (> 45%)
Partition Coefficient:	Not available.
Autoignition Temperature (°C/°F):	Not available.
Decomposition Temperature (°C/°F):	Not available.
Viscosity:	Not available.
Explosive Properties:	None.
Oxidizing Properties:	None.
Volatile Organic Content (VOC) (g/l):	ca. 150-240 g/l (as defined by 40CFR51.100)

SECTION 10 STABILITY AND REACTIVITY

Reactivity:	Product will not undergo additional reaction.
Stability:	Stable under normal storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Contact with incompatible materials, excessive heat.
Incompatibilities:	Oxidizing agents, strong acids, strong bases, halides.
Hazardous Decomposition Products:	Oxides of carbon, oxides of nitrogen, oxides of sulfur, oxides of phosphorus, oxides of silicon, amines, toxic by-products.

SECTION 11 TOXICOLOGICAL INFORMATION

If available, toxicity data for the product is given; otherwise component data is listed.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity:	<p>This product is not expected to be appreciably toxic.</p> <p>(Functional polymers) Oral acute toxicity estimate (ATE) > 3500 mg/kg; Dermal acute toxicity estimate (ATE) > 2500 mg/kg (estimated from polymer data and analogous polymer values)</p> <p>(Organic phosphonate) Oral LD50 (rat) > 1000 mg/kg; Dermal LD50 (rabbit) > 1000 mg/kg</p> <p>(Cocamide diethanolamine) Oral LD50 (rat) 12.2 g/kg; Dermal LD50 (rabbit) > 2 g/kg</p> <p>(Surfactant) Oral LD50 (rat) > 5000 mg/kg; Dermal LD50 (rabbit) > 2000 mg/kg</p> <p>(Diethanolamine) Oral LD50 (rat) 710-1800 mg/kg; Dermal LD50 (rabbit) 13 g/kg</p>
Skin Corrosion / Irritation:	<p>The product is expected to be irritating to the skin.</p> <p>(Functional polymers) Moderately irritating to skin (estimated from rabbit data and data for analogous polymer).</p> <p>(Organic phosphonate) No data.</p> <p>(Cocamide diethanolamine) Moderately irritating to skin (rabbit).</p> <p>(Surfactant) Not irritating to skin (rabbit).</p> <p>(Diethanolamine) Irritating to skin (rabbit).</p>
Serious Eye Damage / Irritation:	<p>The product is expected to be severely irritating to the eyes with possible damage upon prolonged or repeated exposures.</p> <p>(Functional polymers) Irritating to eye (estimated from rabbit data and data for analogous polymer).</p> <p>(Organic phosphonate) No data.</p> <p>(Cocamide diethanolamine) Severely irritating to eye with potential damage (rabbit).</p> <p>(Surfactant) Slightly irritating to eye (rabbit).</p> <p>(Diethanolamine) Damaging to eyes, particularly at concentration greater than 15%.</p>
Respiratory or Skin Sensitization:	<p>The product is not expected to be dermally sensitizing; however, certain individuals may experience allergic reactions to residual monomer content.</p> <p>(Functional polymers) Not dermally sensitizing (guinea pig) (analogous polymer and data).</p> <p>(Organic phosphonate) No data.</p> <p>(Cocamide diethanolamine) Not dermally sensitizing (guinea pig).</p> <p>(Surfactant) No data.</p> <p>(Diethanolamine) Not dermally sensitizing (guinea pig and human).</p>
Mutagenicity:	<p>This product is not expected to be mutagenic.</p> <p>(Functional polymers) Not mutagenic (Ames test system) (analogous polymer and data).</p> <p>(Organic phosphonate) Not mutagenic in a standard battery of genetic toxicological tests.</p> <p>(Cocamide diethanolamine) Not mutagenic (Ames test systems with and without activation). Did not induce chromosomal aberrations or sister chromatid exchanges with or without metabolic activation in Chinese hamster ovary cells. Inconclusive results were observed in mouse lymphoma forward mutation assays.</p> <p>(Surfactant) Not mutagenic (Ames test system).</p> <p>(Diethanolamine) Not mutagenic (Ames, rat liver cell, Chinese Hamster ovary E. coli and mammalian cell gene mutation, mouse lymphoma test systems...with or without activation).</p>
Carcinogenicity:	<p>This product may be carcinogenic.</p> <p>(Functional polymers) No data.</p> <p>(Organic phosphonate) No data.</p> <p>(Cocamide diethanolamine) Liver and kidney tumors developed in mice, but this increase was attributed to free diethanolamine present. Equivocal</p>

SECTION 11 TOXICOLOGICAL INFORMATION

	evidence in rats. Determined to be possibly carcinogenic to humans (EPA and IARC).
	(Surfactant) No data.
	(Diethanolamine) Increased liver and kidney tumors developed in rats. Determined to be possibly carcinogenic to humans (IARC and NTP).
Reproductive / Developmental Toxicity:	This product is not expected to be developmentally harmful.
	(Functional polymers) No data.
	(Organic phosphonate) No data.
	(Cocamide diethanolamine) Skeletal retardation in rat fetuses were considered to be incidental because the values were within the normal range of variation for this strain (oral administration). NOAEL: 1000 mg/kg/day.
	(Surfactant) No data.
	(Diethanolamine) No treatment-related morphological abnormalities in pups were detected in orally administered rats.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Single Exposure:	(Functional polymers) High exposures may cause kidney effects (analogous polymer and data).
	(Organic phosphonate) No data.
	(Cocamide diethanolamine) No pathological changes were observed in the liver and kidneys of mice (dermal application). Kidney damage was noted in rats at higher dose rates (200 and 400 mg/kg).
	(Surfactant) No adverse effects anticipated based on similar compounds.
	(Diethanolamine) No data.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Repeated Exposure:	(Functional polymers) Two-year feeding studies on rats and dogs yielded no adverse health effects (analogous polymer and data).
	(Organic phosphonate) No data.
	(Cocamide diethanolamine) No data.
	(Surfactant) No data.
	(Diethanolamine) Liver and kidney damage and abnormalities were observed in rats by inhalation and oral administration. Decreased sperm motility and sperm count resulted in male rats.
Aspiration Hazard:	This product is not expected to be an aspiration hazard.
Additional Information:	None.

SECTION 12 ECOLOGICAL INFORMATION

If available, ecological data for the product is given; otherwise component data is listed.

Acute Ecotoxicity:	This product may be harmful to aquatic species.
	(Functional polymers) LC50 (fathead minnow & Rainbow trout) > 550 mg/l/96h; EC50 (Daphnia magna) > 520 mg/l/48h; EC50 (algae) > 50 mg/l/96 hr (analogous polymer and data).
	(Organic phosphonate) LC50 (Labeo boga) > 250 mg/l/48 hr; EC50 (Daphnia magna) 130 mg/l/24 hr.
	(Cocamide diethanolamine) LC50 (Zebra fish) 3.6 mg/l/96h; EC50 (Daphnia magna) 3.3 mg/l/24 hr; EC50 (algae) 2.2 mg/l/72 hr.
	(Surfactant) No data.
	(Diethanolamine) LC50 (Goldfish) 800 mg/l/24 hr; EC50 (Daphnia magna) 77.5 mg/l/48h; EC50 (algae) 7.8-75 mg/l/72h.
Mobility:	(Functional polymers) No data.
	(Organic phosphonate) No data.
	(Cocamide diethanolamine) No data.
	(Surfactant) No data.
	(Diethanolamine) Should leach in soil. Extremely mobile in soil (Koc estimated to be 4).

SECTION 12 ECOLOGICAL INFORMATION

Persistence/Degradability:	(Functional polymers) Not readily biodegradable. Degradation may be slow or negligible. (Organic phosphonate) Not readily biodegradable (17% in 28 days). (Cocamide diethanolamine) No data. (Surfactant) No data. (Diethanolamine) Expected to biodegrade fairly rapidly following acclimation (97% in 10 days).
Bioaccumulation:	(Functional polymers) No data. (Organic phosphonate) No data. (Cocamide diethanolamine) No data. (Surfactant) No data. (Diethanolamine) A bioconcentration factor (BCF) of <1 was estimated, which suggests insignificant to low potential.
Other adverse effects:	None.

SECTION 13 DISPOSAL CONSIDERATION

Environmental precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.
Product Disposal:	Dispose in accordance with all local, state (provincial), and federal regulations. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.
Container Disposal:	Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

SECTION 14 TRANSPORT INFORMATION

DOT Proper Shipping Name:	Not Regulated
UN Number:	Not applicable.
UN Class:	Not applicable.
UN Packaging Group:	Not applicable.
Reportable Quantity:	100 pounds (Diethanolamine)
Marine Pollutant:	None.

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Consult current IATA Regulations prior to shipping by air.

SECTION 15 REGULATORY INFORMATION

US Toxic Substance Control Act:	All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Canadian Domestic Substance List:	One or more component(s) of this product are not listed on the Canadian Domestic List. Limited quantities may be permitted.
EU Existing Inventory of Chemical Substances:	One or more component(s) of this product are not in compliance with the inventory listing requirements of the E.U. Existing Inventory of Chemical Substances (EINECS). One or more component(s) of this product have not been pre-listed under REACH. Limited quantities may be permitted.

SECTION 15 REGULATORY INFORMATION

TSCA Sec.12(b) Export Notification:	This product does not contain a chemical at or above de minimis concentrations which requires reporting.	
Canadian WHMIS Classification:	D.2.A, D.2.B	
Massachusetts Right-To-Know:	This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.	
New Jersey Right-To-Know:	This product contains materials subject to disclosure under the New Jersey's Right-To-Know Law: - Diethanolamine	
Pennsylvania Right-To-Know:	This product contains materials subject to disclosure under the Pennsylvania's Right-To-Know Law: - Diethanolamine	
California Proposition 65:	This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm: - Cocamide diethanolamine - Diethanolamine	
SARA TITLE III-Section 311/312 Categorization (40 CFR 370):	Immediate, delayed hazard	
SARA TITLE III-Section 313 (40 CFR 372):	This product contains materials which are listed in Section 313 at or above de minimis concentrations: - Diethanolamine	
CERCLA Hazardous Substance (40 CFR 302)	This product contains materials subject to reporting under CERCLA and Section 304 of EPCRA: - Diethanolamine (100 pounds)	
Water Hazard Class (WGK):	This product is water-endangering (WGK=2).	
Other Chemical Inventories:	Australia (AICS):	One or more component(s) not listed.
	China (IECSC):	One or more component(s) not listed.
	Japan (ENCS):	One or more component(s) not listed.
	Korea (KCI):	One or more component(s) not listed.
	Philippines (PICCS):	One or more component(s) not listed.

SECTION 16 OTHER INFORMATION

NFPA Rating - HEALTH:	3		
NFPA Rating - FIRE:	1		
NFPA Rating - REACTIVITY:	0		
NFPA Rating - SPECIAL:	NONE		
SDS Date Issued:	September 19, 2013		
SDS Current Version:	1.2	Version Date:	January 25, 2016
SDS Revision History:	v1.0 Initial version. v1.1 Modified acute toxicity values for functional polymers (Section 11). v1.2 Added product name (Section 1).		

SECTION 16 OTHER INFORMATION

Abbreviations:	<p>GHS: Globally Harmonized System of Classification and Labeling of Chemicals</p> <p>CAS#: Chemical Abstract Services Number</p> <p>ACGIH: American Conference of Governmental Industrial Hygienists</p> <p>OSHA: Occupational Safety and Health Administration</p> <p>NFPA: National Fire Protection Association</p> <p>DOT: US Department of Transportation</p> <p>RCRA: US Resource Conservation and Recovery Act</p> <p>TLV: Threshold Limit Value</p> <p>TWA: Time-Weighted Average</p> <p>PEL: Permissible Exposure Limit</p> <p>STEL: Short Term Exposure Limit</p> <p>WEEL: Workplace Environmental Exposure Levels</p> <p>AIHA: American Industrial Hygiene Association</p> <p>NTP: National Toxicology Program</p> <p>IARC: International Agency for Research on Cancer</p> <p>R: Risk</p> <p>S: Safety</p> <p>LD50: Lethal Dose 50%</p> <p>LC50: Lethal Concentration 50%</p> <p>EC50: Effective Concentration 50%</p> <p>BCF: Bioconcentration Factor</p> <p>BOD: Biological Oxygen Demand</p> <p>Koc: Soil Organic Carbon Partition Coefficient.</p> <p>Tlm: Median Tolerance Limit</p>
Key References:	<p>United States National Library of Medicine's TOXNET</p> <p>Patty's Toxicology, 5th Edition</p> <p>European Commission's Institute for Health and Consumer Protection</p> <p>American Conference of Governmental Industrial Hygienists</p> <p>International Agency for Research on Cancer</p> <p>United States National Toxicology Program</p> <p>United States Occupational Safety and Health Administration</p> <p>United States Department of Transportation</p> <p>Supplier Material Safety Data Sheets</p>
Disclaimer:	<p><i>The data contained herein is based on information that the company believes to be reliable, but no expressed or implied warranty is made with regard to the accuracy of such data or its suitability for a given situation. Such data relates only to the specific product described and not to such products in combination with any other product and no agent of the company is authorized to vary any of such data. The company and its agents disclaim all liability for any action taken or foregone on reliance upon such data.</i></p>
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