



SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

Product Name(s): ALGAE GUARD
Product Code(s): AG-N, AG-N2, AG-S, AG-D, AG4/0.75H, AG4/1.50H, AG5/1.50H, AG6/1.50H, AG8/1.50H, AG12/1.50H, AG4/1.50R, AG6/1.50R, AG8/1.50R, AG12/1.50R
Uses: Microbiocide for condensate pans and related.
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: April 30, 2015 Date Revised: July 30, 2015

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:	DANGER Carcinogen (Category 2) Skin Irritation (Category 1) Acute Toxicity – Oral (Category 4) Aquatic Acute Toxicity (Category 1)	
GHS Hazard Statements:	Suspected of causing cancer Causes severe skin burns and eye damage Harmful if swallowed Very toxic 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. Do not breathe dusts. Wash hands/skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. <u>Response:</u> Immediately call a poison center/doctor/hospital. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash contaminated clothing before reuse. Collect spillage.	

SECTION 2 HAZARDS IDENTIFICATION

	<u>Storage:</u> Store locked up.	<u>Disposal:</u> Dispose of contents/container in accordance with local/regional/national/international regulations.
GHS Assessment:	Approximately 53% of this mixture consists of ingredient(s) of unknown acute toxicity. Approximately 53% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.	

SECTION 3 COMPOSITION / INGREDIENTS

Component	CAS Number	EC Number	Concentration
Polymer	Proprietary	---	45 - 60%
Alkyl(dimethyl)(aryl)ammonium chloride	Proprietary	---	30 - 45%
Cocamide diethanolamine	68603-42-9	271-657-0	1 - 10%
Diethanolamine	111-42-2	203-868-0	0.1 - 1.0%

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 immediately, 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 develops and/or persists. Wash contaminated clothing before reuse.
- First Aid - Ingestion: If swallowed and feel unwell, immediately 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 redness/irritation, tissue ulceration or burns, nausea, difficulty breathing.
- 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 when applying carbon dioxide in confined spaces.
- Specific Hazards: This product is not flammable. 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.

SECTION 5 FIRE FIGHTING MEASURES

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 solid, avoid contact with skin and eyes. Wash thoroughly after handling.

Storage: Keep container(s) tightly closed. Use and store this material at temperatures between 15.5°C and 26.7°C (60-80°F) away from moisture, heat, direct sunlight and hot metal surfaces. 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.

Polymer: (as Particulates not otherwise regulated)
OSHA PEL: 15 mg/m³ TWA (total).
OSHA PEL: 5 mg/m³ TWA (respirable fraction).

Alkyl(dimethyl)(aryl)ammonium chloride: None.

Cocamide diethanolamine: None.

Diethanolamine: ACGIH TLV: 2 mg/m³ TWA.
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 an dust/organic cartridge 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).

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 yellow to colorless
Odor:	Characteristic
Odor Threshold:	Not available.
pH:	6 - 8
Melting Point/Range (°C/°F):	Not available.
Boiling Point/Range (°C/°F):	Not available.
Flash Point (PMCC) (°C/°F):	Not flammable.
Evaporation Rate:	Not available.
Flammability / Explosivity Limits in Air (%):	Not available.
Vapor Pressure:	Not available.
Vapor Density (Air = 1):	Not available.
Relative Density:	> 1.0 (23.9°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. 0 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.
Hazardous Decomposition Products:	Oxides of carbon, oxides of nitrogen, oxides of silicon, amines, metal oxides, aromatic and aliphatic compounds, toxic by-products.

SECTION 11 TOXICOLOGICAL INFORMATION

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

Acute Toxicity:	This product may be harmful, if swallowed. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) Oral LD50 (rat) 400 mg/kg; Dermal LD50 (rabbit) > 2000 mg/kg (Cocamide diethanolamine) Oral LD50 (rat) 12.2 g/kg; Dermal LD50 (rabbit) > 2 g/kg (Diethanolamine) Oral LD50 (rat) 710-1800 mg/kg; Dermal LD50 (rabbit) 13 g/kg
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SECTION 11 TOXICOLOGICAL INFORMATION

Skin Corrosion / Irritation:	The product may be corrosive to the skin. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) Corrosive to skin. (Cocamide diethanolamine) Moderately irritating to skin (rabbit). (Diethanolamine) Irritating to skin (rabbit).
Serious Eye Damage / Irritation:	The product may be corrosive to the eyes. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) Corrosive to eyes. (Cocamide diethanolamine) Severely irritating to eye with potential damage (rabbit). (Diethanolamine) Damaging to eyes, particularly at concentration greater than 15%.
Respiratory or Skin Sensitization:	The product is not expected to be dermally sensitizing. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) Not dermally sensitizing (guinea pig). (Cocamide diethanolamine) Not dermally sensitizing (guinea pig). (Diethanolamine) Not dermally sensitizing (guinea pig and human).
Mutagenicity:	This product is not expected to be mutagenic. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) No data. (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. (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).
Carcinogenicity:	This product may be carcinogenic. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) No data. (Cocamide diethanolamine) Liver and kidney tumors developed in mice, but this increase was attributed to free diethanolamine present. Equivocal evidence in rats. Determined to be possibly carcinogenic to humans (EPA and IARC). (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. (Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) 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. (Diethanolamine) No treatment-related morphological abnormalities in pups were detected in orally administered rats.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Single Exposure:	(Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) 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). (Diethanolamine) No data.
Chronic/Subchronic Toxicity: Specific Target	(Polymer) No data. (Alkyl(dimethyl)(aryl)ammonium chloride) No data.

SECTION 11 TOXICOLOGICAL INFORMATION

Organ/Systemic Toxicity – (Cocamide diethanolamine) No data.
 Repeated Exposure: (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 very toxic to aquatic species.
 (Polymer) No data.
 (Alkyl(dimethyl)(aryl)ammonium chloride) LC50 (fish) 0.86 ppm/96 hr; EC50 (Daphnia magna) 0.006 mg/l/48 hr; LC50 (algae) 0.063 mg/l/96 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.
 (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: (Polymer) No data.
 (Alkyl(dimethyl)(aryl)ammonium chloride) No data.
 (Cocamide diethanolamine) No data.
 (Diethanolamine) Should leach in soil. Extremely mobile in soil (Koc estimated to be 4).

Persistence/Degradability: (Polymer) No data.
 (Alkyl(dimethyl)(aryl)ammonium chloride) Readily biodegradable.
 (Cocamide diethanolamine) No data.
 (Diethanolamine) Expected to biodegrade fairly rapidly following acclimation (97% in 10 days).

Bioaccumulation: (Polymer) No data.
 (Alkyl(dimethyl)(aryl)ammonium chloride) No data.
 (Cocamide diethanolamine) 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.

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture 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, or the nearest EPA office for guidance.

Container Disposal: Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its

SECTION 13 DISPOSAL CONSIDERATION

container must be disposed of in a safe way.

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or wrap empty plastic bag and box for trash collection. When discarding knit enclosure wrap in newspaper and place in trash for collection.

SECTION 14 TRANSPORT INFORMATION

DOT Proper Shipping Name:	Corrosive solids, n.o.s. (Alkyl(dimethyl)(aryl)ammonium chloride)
UN Number:	UN1759
UN Class:	8
UN Packaging Group:	II
Reportable Quantity:	100 pounds (Diethanol amine)
Marine Pollutant:	This product does not contain a listed marine pollutant; however, this product will meet the criteria of a marine pollutant under the IMDG Code.

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 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):	This product has been registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). EPA Registration Number: 59682-1
US FIFRA Label Information:	This chemical (mixture) is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:
	DANGER Corrosive. Causes irreversible eye damage and skin burns. Maybe fatal if swallowed, absorbed through the skin, or inhaled.
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.
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:	E, D.2.A 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.

SECTION 15 REGULATORY INFORMATION

Massachusetts Right-To-Know:	This product does not contain materials subject to disclosure under the Massachusetts' Right-To-Know Law.
New Jersey Right-To-Know:	This product does not contain materials subject to disclosure under the New Jersey's Right-To-Know Law.
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 - Benzyl chloride (< 5 ppm) - Diethanolamine - Methanol (< 0.2%)
SARA TITLE III-Section 311/312 Categorization (40 CFR 370):	Immediate (acute), delayed (chronic) 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 severely water-endangering (WGK=3).
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:	April 30, 2015		
SDS Current Version:	2.0	Version Date:	July 30, 2015
SDS Revision History:	v1.0 Initial version. v2.0 SDS revised to align with US FIFRA requirements.		
Abbreviations:	GHS: Globally Harmonized System of Classification and Labeling of Chemicals CAS#: Chemical Abstract Services Number ACGIH: American Conference of Governmental Industrial Hygienists OSHA: Occupational Safety and Health Administration NFPA: National Fire Protection Association DOT: US Department of Transportation RCRA: US Resource Conservation and Recovery Act TLV: Threshold Limit Value TWA: Time-Weighted Average		

SECTION 16 OTHER INFORMATION

PEL:	Permissible Exposure Limit
STEL:	Short Term Exposure Limit
WEEL:	Workplace Environmental Exposure Levels
AIHA:	American Industrial Hygiene Association
NTP:	National Toxicology Program
IARC:	International Agency for Research on Cancer
R:	Risk
S:	Safety
LD50:	Lethal Dose 50%
LC50:	Lethal Concentration 50%
EC50:	Effective Concentration 50%
BCF:	Bioconcentration Factor
BOD:	Biological Oxygen Demand
Koc:	Soil Organic Carbon Partition Coefficient.
Tlm:	Median Tolerance Limit

Key References:

United States National Library of Medicine's TOXNET
Patty's Toxicology, 5th Edition
European Commission's Institute for Health and Consumer Protection
American Conference of Governmental Industrial Hygienists
International Agency for Research on Cancer
United States National Toxicology Program
United States Occupational Safety and Health Administration
United States Department of Transportation
Supplier Material Safety Data Sheets

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Prepared by:

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