



# Safety Data Sheet

Cat. # DG535

CMC-535™ Detergent Assay

Size: 200 assays





# CMC-535™ Fluorescent Dye [100X]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/12/2016

Revision date: 05/11/2017

Version: 7.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : CMC-535™ Fluorescent Dye [100X]  
Product code : 092E

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132-1429 - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Specific hazards arising from the chemical

No additional information available

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### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### CMC-535™ Fluorescent Dye [100X]

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Color : No data available

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Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

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Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Not regulated

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

Not regulated

#### Air transport

Not regulated

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

No additional information available

#### 15.2. International regulations

##### CANADA

##### EU-Regulations

##### National regulations

No additional information available

#### 15.3. US State regulations

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### SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*



# CMC-535™ Reagent 1 and 2

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/12/2016

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Version: 7.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : CMC-535™ Reagent 1 and 2  
Product code : 093E\_094E

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132-1429 - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

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Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
edetic acid	(ethylenedinitrilo)tetraacetic acid / 3,6-bis(carboxymethyl)3,6-diazaoctanedioic acid / 3,6-bis(carboxymethyl)edathamil / 3,6-diazaoctanedioic acid, 3,6-bis(carboxymethyl)- / 3,6-diazaoctanediol acid / acetic acid, (ethylenedinitrilo)tetra- / acetic acid, 2,2',2'',2'''-(1,2-ethanediyldinitrilo)tetrakis- / AI3-17181 / caswell No 438 / celon A / celon ATH / cheelox / cheelox BF acid / chemcolox 340 / clewat TAA / complexon II / complexone II / detaric acid / edathamil / edetic / edetic acid / editic acid / EDTA / EDTA acid / EDTA, chelating agent / endrate / EPA pesticide chemical code 039101 / ethylene-bis(iminodiacetic acid) / ethylenediamine-N,N,N',N'-tetraacetic acid / ethylenediaminetetra(acetic acid) / ethylenediaminetetraacetate / ethylenedinitrilotetraacetic acid / gluma cleanser / glycine, N,N'-1,2-ethanediybis(N-(carboxymethyl)- / hamp-ene acid / havidote / ICRF185 / idranal II / metaquest A / methaquest A / N,N'-1,2-ethanediybis(N-(carboxymethyl)glycine) / N,N'-1,2-ethanediy-bis(N-carboxymethyl)glycine / NA9117 / nervanaid B acid / nullapon B acid / nullapon BF acid / perma kleer 50 acid / SEQ100 / sequestrene AA / sequestric acid / sequestrol / tetrine acid / titriplex / tricon BW / trilon B(=EDTA) / trilon BS / trilon BW / universne acid / versene acid / versene(=EDTA) / vinkeil 100 / warkeelate acid / YD30	(CAS-No.) 60-00-4	< 0.29224	Eye Irrit. 2, H319
1,4-dithiothreitol, DL-	(R*,R*)-(+/-)-1,4-dimercapto-2,3-butanediol / (R*,R*)-(+/-)-1,4-dimercapto-butane-2,3-diol / 1,4-dimercapto-2,3-butanediol, (R*,R*)-(+/-)- / 1,4-dimercapto-butane-2,3-diol, (R*,R*)-(+/-)- / 2,3-butanediol, 1,4-dimercapto-, (R*,R*)-(+/-)- / 2,3-butanediol, 1,4-dimercapto-, DL-threo- / Clelands's reagent, DL- / dithiothreitol, DL- / DL-1,4-dithiothreitol / DL-Cleland's reagent / DL-dithiothreitol / DL-DTT (=dithiothreitol) / DL-threo-1,4-dimercapto-2,3-butanediol / DTT (=dithiothreitol), DL- / rac-dithiothreitol / threitol, 1,4-dithio-, DL- / threo-1,4-dimercapto-2,3-butanediol, DL-	(CAS-No.) 27565-41-9	< 0.154253	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
copper(II) chloride, dihydrate	copper chloride (CuCl <sub>2</sub> ), dihydrate / copper chloride (CuCl <sub>2</sub> .2H <sub>2</sub> O) / copper chloride, dihydrate / copper dichloride hydrate / copper dichloride, dihydrate / copper(2+) chloride, dihydrate / coppertrace / cupric chloride, dihydrate / cuprichloride, dihydrate / diaquadichlorocopper / eriochalcite, natural / eriocholcite	(CAS-No.) 10125-13-0	< 0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410



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Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Specific hazards arising from the chemical

No additional information available

#### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### CMC-535™ Reagent 1 and 2

No additional information available

##### 1,4-dithiothreitol, DL- (27565-41-9)

No additional information available

# CMC-535™ Reagent 1 and 2

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### edetic acid (60-00-4)

No additional information available

### copper(II) chloride,dihydrate (10125-13-0)

No additional information available

## 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

## 8.3. Individual protection measures/Personal protective equipment

### Hand protection:

Protective gloves

### Eye protection:

Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

#### 1,4-dithiothreitol, DL- (27565-41-9)

ATE US (oral)	500 mg/kg body weight
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#### edetic acid (60-00-4)

LD50 oral rat	4500 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
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ATE US (oral)	4500 mg/kg body weight
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#### copper(II) chloride,dihydrate (10125-13-0)

ATE US (oral)	500 mg/kg body weight
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

#### 1,4-dithiothreitol, DL- (27565-41-9)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
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#### copper(II) chloride,dihydrate (10125-13-0)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
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Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

#### edetic acid (60-00-4)

LC50 fish 1	159 mg/l (US EPA, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
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EC50 Daphnia 1	140 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
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<b>edetic acid (60-00-4)</b>	
ErC50 (algae)	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP)

### 12.2. Persistence and degradability

<b>1,4-dithiothreitol, DL- (27565-41-9)</b>	
Persistence and degradability	Biodegradability in water: no data available.

<b>edetic acid (60-00-4)</b>	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.85 g O <sub>2</sub> /g substance
ThOD	1.09 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.0091

<b>copper(II) chloride,dihydrate (10125-13-0)</b>	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>1,4-dithiothreitol, DL- (27565-41-9)</b>	
Bioaccumulative potential	No bioaccumulation data available.

<b>edetic acid (60-00-4)</b>	
BCF fish 1	1.1 - 1.8 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Read-across, Fresh weight)
Log Pow	0.13 (Weight of evidence approach)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

<b>copper(II) chloride,dihydrate (10125-13-0)</b>	
BCF fish 1	290 (Pimephales promelas, Copper ion)
BCF other aquatic organisms 1	17700 (Corbicula sp., Copper ion)
BCF other aquatic organisms 2	471 (148 h, Daphnia magna, Anhydrous form)
Bioaccumulative potential	Bioaccumable.

### 12.4. Mobility in soil

<b>edetic acid (60-00-4)</b>	
Log Koc	2.495 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not regulated

### Transportation of Dangerous Goods

Not applicable

# CMC-535™ Reagent 1 and 2

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### Transport by sea

Not regulated

### Air transport

Not regulated

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 1,4-dithiothreitol, DL- (27565-41-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### edetic acid (60-00-4)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ

5000 lb

#### copper(II) chloride,dihydrate (10125-13-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### EU-Regulations

#### National regulations

No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

Full text of H-phrases:

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*



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Version: 7.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : CMC-535™ Reagent 1 and 2  
Product code : 093E\_094E

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132-1429 - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

# CMC-535™ Reagent 1 and 2

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
edetic acid	(ethylenedinitrilo)tetraacetic acid / 3,6-bis(carboxymethyl)3,6-diazaoctanedioic acid / 3,6-bis(carboxymethyl)edathamil / 3,6-diazaoctanedioic acid, 3,6-bis(carboxymethyl)- / 3,6-diazaoctanediol acid / acetic acid, (ethylenedinitrilo)tetra- / acetic acid, 2,2',2'',2'''-(1,2-ethanediyldinitrilo)tetrakis- / AI3-17181 / caswell No 438 / celon A / celon ATH / cheelox / cheelox BF acid / chemcolox 340 / clewat TAA / complexon II / complexone II / detaric acid / edathamil / edetic / edetic acid / editic acid / EDTA / EDTA acid / EDTA, chelating agent / endrate / EPA pesticide chemical code 039101 / ethylene-bis(iminodiacetic acid) / ethylenediamine-N,N,N',N'-tetraacetic acid / ethylenediaminetetra(acetic acid) / ethylenediaminetetraacetate / ethylenedinitrilotetraacetic acid / gluma cleanser / glycine, N,N'-1,2-ethanediybis(N-(carboxymethyl)- / hamp-ene acid / havidote / ICRF185 / idranal II / metaquest A / methaquest A / N,N'-1,2-ethanediybis(N-(carboxymethyl)glycine) / N,N'-1,2-ethanediy-bis(N-(carboxymethyl)glycine) / NA9117 / nervanaid B acid / nullapon B acid / nullapon BF acid / perma kleer 50 acid / SEQ100 / sequestrene AA / sequestric acid / sequestrol / tetrine acid / titriplex / tricon BW / trilon B(=EDTA) / trilon BS / trilon BW / universne acid / versene acid / versene(=EDTA) / vinkeil 100 / warkeelate acid / YD30	(CAS-No.) 60-00-4	< 0.29224	Eye Irrit. 2, H319
1,4-dithiothreitol, DL-	(R*,R*)-(+/-)-1,4-dimercapto-2,3-butanediol / (R*,R*)-(+/-)-1,4-dimercapto-2,3-butanediol / 1,4-dimercapto-2,3-butanediol, (R*,R*)-(+/-)- / 1,4-dimercapto-2,3-butanediol, (R*,R*)-(+/-)- / 2,3-butanediol, 1,4-dimercapto-, DL-threo- / Clelands's reagent, DL- / dithiothreitol, DL- / DL-1,4-dithiothreitol / DL-Cleland's reagent / DL-dithiothreitol / DL-DTT (=dithiothreitol) / DL-threo-1,4-dimercapto-2,3-butanediol / DTT (=dithiothreitol), DL- / rac-dithiothreitol / threitol, 1,4-dithio-, DL- / threo-1,4-dimercapto-2,3-butanediol, DL-	(CAS-No.) 27565-41-9	< 0.154253	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
copper(II) chloride, dihydrate	copper chloride (CuCl <sub>2</sub> ), dihydrate / copper chloride (CuCl <sub>2</sub> ·2H <sub>2</sub> O) / copper chloride, dihydrate / copper dichloride hydrate / copper dichloride, dihydrate / copper(2+) chloride, dihydrate / coppertrace / cupric chloride, dihydrate / cuprichloride, dihydrate / diaquadichlorocopper / eriochalcite, natural / eriocholcite	(CAS-No.) 10125-13-0	< 0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Specific hazards arising from the chemical

No additional information available

#### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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No additional information available

##### 1,4-dithiothreitol, DL- (27565-41-9)

No additional information available



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### edetic acid (60-00-4)

No additional information available

### copper(II) chloride,dihydrate (10125-13-0)

No additional information available

## 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

## 8.3. Individual protection measures/Personal protective equipment

### Hand protection:

Protective gloves

### Eye protection:

Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

#### 1,4-dithiothreitol, DL- (27565-41-9)

ATE US (oral)	500 mg/kg body weight
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#### edetic acid (60-00-4)

LD50 oral rat	4500 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
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ATE US (oral)	4500 mg/kg body weight
---------------	------------------------

#### copper(II) chloride,dihydrate (10125-13-0)

ATE US (oral)	500 mg/kg body weight
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

#### 1,4-dithiothreitol, DL- (27565-41-9)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
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#### copper(II) chloride,dihydrate (10125-13-0)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
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Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

#### edetic acid (60-00-4)

LC50 fish 1	159 mg/l (US EPA, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
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EC50 Daphnia 1	140 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
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<b>edetic acid (60-00-4)</b>	
ErC50 (algae)	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP)

### 12.2. Persistence and degradability

<b>1,4-dithiothreitol, DL- (27565-41-9)</b>	
Persistence and degradability	Biodegradability in water: no data available.

<b>edetic acid (60-00-4)</b>	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.85 g O <sub>2</sub> /g substance
ThOD	1.09 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.0091

<b>copper(II) chloride,dihydrate (10125-13-0)</b>	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>1,4-dithiothreitol, DL- (27565-41-9)</b>	
Bioaccumulative potential	No bioaccumulation data available.

<b>edetic acid (60-00-4)</b>	
BCF fish 1	1.1 - 1.8 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Read-across, Fresh weight)
Log Pow	0.13 (Weight of evidence approach)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

<b>copper(II) chloride,dihydrate (10125-13-0)</b>	
BCF fish 1	290 (Pimephales promelas, Copper ion)
BCF other aquatic organisms 1	17700 (Corbicula sp., Copper ion)
BCF other aquatic organisms 2	471 (148 h, Daphnia magna, Anhydrous form)
Bioaccumulative potential	Bioaccumable.

### 12.4. Mobility in soil

<b>edetic acid (60-00-4)</b>	
Log Koc	2.495 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not regulated

### Transportation of Dangerous Goods

Not applicable

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### Transport by sea

Not regulated

### Air transport

Not regulated

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 1,4-dithiothreitol, DL- (27565-41-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### edetic acid (60-00-4)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ

5000 lb

#### copper(II) chloride,dihydrate (10125-13-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### EU-Regulations

#### National regulations

No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

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Revision date : 05/11/2017

Full text of H-phrases:

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*