



G-Biosciences, St Louis, MO, USA | 1-800-628-7730 | 1-314-991-6034 | technical@GBiosciences.com

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-32DSCU

Destaining Solution for Reversible Copper Stain™ [10X]

Size: 500ml



think proteins! think G-Biosciences!

www.GBiosciences.com



Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Revision date: 5/11/2017 Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Cu Destaining Solution [10X]
Product code : 037D
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Research purposes
Use of the substance/mixture : Electrophoresis

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

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

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	
United Kingdom	National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 1A H314
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage.

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

CLP Signal word

: Danger

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
edetic acid	(CAS-No.) 60-00-4 (EC-No.) 200-449-4 (EC Index-No.) 607-429-00-8	10 - 50	Eye Irrit. 2, H319
sodium hydroxide	(CAS-No.) 1310-73-2 (EC-No.) 215-185-5 (EC Index-No.) 011-002-00-6	5 - 10	Met. Corr. 1, H290 Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits
sodium hydroxide	(CAS-No.) 1310-73-2 (EC-No.) 215-185-5 (EC Index-No.) 011-002-00-6	(0.5 =<C < 2) Eye Irrit. 2, H319 (0.5 =<C < 2) Skin Irrit. 2, H315 (2 =<C < 5) Skin Corr. 1B, H314 (5 =<C < 100) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Symptoms/effects after ingestion	: Burns.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Most organic solids may burn if strongly heated. INDIRECT FIRE HAZARD:
Explosion hazard	: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.
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

Protective equipment	: Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. Contact with moisture/water: compressed air/oxygen apparatus. Contact with moisture/water: gas-tight suit.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

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

For containment	: Contain released product, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.
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. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. 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 locked up. Store in a well-ventilated place. Keep cool.
Storage temperature	: ambient temperature
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. metals. organic materials. water/moisture.
Storage area	: Store in a dry area. Keep container in a well-ventilated place. Unauthorized persons are not admitted. Meet the legal requirements. Store at ambient temperature.
Special rules on packaging	: SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: stainless steel. nickel. MATERIAL TO AVOID: lead. aluminium. copper. tin. zinc. bronze. textile.

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium hydroxide (1310-73-2)

United Kingdom - Occupational Exposure Limits

WEL STEL (mg/m ³)	2 mg/m ³
-------------------------------	---------------------

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: natural rubber. neoprene. nitrile rubber. GIVE LESS RESISTANCE: butyl rubber. polyethylene. PVA. GIVE POOR RESISTANCE: natural fibres

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection:

Dust production: dust mask with filter type P3. Self-contained breathing apparatus if conc. in air > 2 mg/m³

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Clear.
Odour	: None.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 10: Stability and reactivity

10.1. Reactivity

Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition. Reacts on exposure to water (moisture) with (some) metals: release of highly flammable gases/vapours (hydrogen). Absorbs the atmospheric CO₂. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk.

10.2. Chemical stability

Unstable on exposure to moisture. Unstable on exposure to air. Hygroscopic.

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

edetic acid (60-00-4)

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

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

sodium hydroxide (1310-73-2)

LC50 fish 1	45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution >=50%)
-------------	---

EC50 Daphnia 1	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)
----------------	---

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)
-------------	---

EC50 Daphnia 1	140 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
----------------	---

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

sodium hydroxide (1310-73-2)

Persistence and degradability	Biodegradability: not applicable.
-------------------------------	-----------------------------------

Chemical oxygen demand (COD)	Not applicable (inorganic)
------------------------------	----------------------------

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ThOD	Not applicable (inorganic)
------	----------------------------

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

12.3. Bioaccumulative potential

sodium hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.

edetic acid (60-00-4)	
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).

12.4. Mobility in soil

sodium hydroxide (1310-73-2)	
Ecology - soil	No (test)data on mobility of the substance available.

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

12.5. Results of PBT and vPvB assessment

Component	
sodium hydroxide (1310-73-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
edetic acid (60-00-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Waste treatment methods.
Product/Packaging disposal recommendations	: Dissolve or mix with a combustible solvent. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
Additional information	: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number	
UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable
14.2. UN proper shipping name	
Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : II

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

Cu Destaining Solution [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 16: Other information

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

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.