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A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-20

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nitrocellulose, dry

Safety Data Sheet

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

Date of issue: 10/13/2016

Revision date: 05/11/2017

Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : nitrocellulose, dry
CAS-No. : 9004-70-0
Product code : 064T
Formula : (C₆H₇N₃O₁₁)_n
Synonyms : bk2-w / bk2-z / c 2018 / ca 80-15 / celex / celloidin / celluloid pyroxyline, dry / cellulose nitrate / cellulose tetranitrate / cellulose, nitrate / cellulosehexanitrate, dry / cn 85 / collodion cotton / collodion cotton, dry / collodion pyroxyline, dry / collodion wool / colloxylin / colloxylin vnv / colloxylin, dry / colloxylinum, dry / corial em finish f / cotton powder, dry / daicel rs 1 / e 1440 / flexible collodion / fm-nts / fulminating cotton, dry / gun cotton, dry / guncotton / H 1/2 / hexanitrate of cellulose, dry / hx 3/5 / kodak lr 115 / lr 115 / nitrocel s / nitrocellulose / nitrocellulose e950 / nitrocotton / nitrocotton, dry / nitron / nitron (nitrocellulose) / nixon n/c / np 11 / nts 218 / nts 222 / nts 539 / nts 542 / nts 62 / parlodion / pesticide code: 099601 / pyralin / pyrocotton, dry / pyroxilin, dry / pyroxylin / pyroxylin, dry / r.s.nitrocellulose / rf 10 / rs / rs 1/2 / rs nitrocellulose / shadolac mt / soluble gun cotton / synpor / tsapolak 964 / xyloidin
BIG No : 29529

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 - 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

Explosive Category 1.1 H201 Explosive; mass explosion hazard

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) : H201 - Explosive; mass explosion hazard
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P230 - Keep wetted with appropriate material
P240 - Ground/Bond container and receiving equipment
P250 - Do not subject to grinding/shock/friction.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P370+P380 - In case of fire: Evacuate area
P372 - Explosion risk in case of fire.
P373 - DO NOT fight fire when fire reaches explosives.
P401 - Store in accordance with local regulations on explosives
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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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

Substance type : Polymer

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
nitrocellulose, dry (Main constituent) (Note T)	bk2-w / bk2-z / c 2018 / ca 80-15 / celex / celloidin / celluloid pyroxyline, dry / cellulose nitrate / cellulose tetranitrate / cellulose, nitrate / cellulosehexanitrate, dry / cn 85 / collodion cotton / collodion cotton, dry / collodion pyroxyline, dry / collodion wool / colloxylin / colloxylin vnv / colloxylin, dry / colloxylinum, dry / corial em finish f / cotton powder, dry / daicel rs 1 / e 1440 / flexible collodion / fm-nts / fulminating cotton, dry / gun cotton, dry / guncotton / H 1/2 / hexanitrate of cellulose, dry / hx 3/5 / kodak lr 115 / lr 115 / nitrocel s / nitrocellulose / nitrocellulose e950 / nitrocotton / nitrocotton, dry / nitron / nitron (nitrocellulose) / nixon n/c / np 11 / nts 218 / nts 222 / nts 539 / nts 542 / nts 62 / parlodion / pesticide code: 099601 / pyralin / pyrocotton, dry / pyroxilin, dry / pyroxylin / pyroxylin, dry / r.s.nitrocellulose / rf 10 / rs / rs 1/2 / rs nitrocellulose / shadolac mt / soluble gun cotton / synpor / tsapolak 964 / xyloidin	(CAS-No.) 9004-70-0	100	Expl. 1.1, H201

Note T : This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.

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

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
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)

Potential Adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg).
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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.
Unsuitable extinguishing media	: Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

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5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD: May readily catch fire. INDIRECT FIRE HAZARD: Fire/heat: explosive hazard bigger than fire hazard.
- Explosion hazard : DIRECT EXPLOSION HAZARD: Explosive; mass explosion hazard. Substance belongs to the group of explosives. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Extinguish/cool from behind cover/unmanned monitors. Do not move the load if exposed to heat. Depending on nature/size of load: consider extinguishment. Re-ignition is possible after the extinguishment. After extinguishing: flood seat of fire with plenty of water.
- 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. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.
- Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

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. Plug the leak, cut off the supply. Dam up the solid spill. Cover with a water blanket. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
- Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.
- 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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Do not subject to grinding, shock, friction. 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

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: many substances.
- Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dark area. Fireproof storeroom. Provide the tank with earthing. Keep locked up. Unauthorized persons are not admitted. Detached building. Store only in a stabilized state. May be stored under water. May be stored under alcohol. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. shock-absorbing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

nitrocellulose, dry (9004-70-0)

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:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Dust formation: dust mask

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Amorphous solid. Amorphous powder. Fibres.
Color	: White-grey
Odor	: Odourless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Not applicable
Relative density	: Not applicable
Specific gravity / density	: 1300 kg/m ³
Solubility	: Insoluble in water. Substance sinks in water. Soluble in ether. Soluble in acetone. Soluble in methanol. Soluble in acetic acid. Water: insoluble, Literature
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Explosive; mass explosion hazard.
Oxidizing properties	: No data available

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9.2. Other information

VOC content : 0 %
Other properties : May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

Decomposes at room temperature: release of heat.

10.2. Chemical stability

Unstable on exposure to heat.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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

nitrocellulose, dry (9004-70-0)

LD50 oral rat	> 5000 mg/kg (Rat, Oral)
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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
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg).

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.
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : No water pollutant (surface water). No data available on ecotoxicity.

12.2. Persistence and degradability

nitrocellulose, dry (9004-70-0)

Persistence and degradability	Biodegradability in water: no data available.
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nitrocellulose, dry

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12.3. Bioaccumulative potential

nitrocellulose, dry (9004-70-0)

Bioaccumulative potential	No bioaccumulation data available.
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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.
Product/Packaging disposal recommendations	: Remove waste in accordance with local and/or national regulations. Specific treatment. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN3270 Nitrocellulose membrane filters (with not more than 12.6% nitrogen, by dry mass), 4.1, II
UN-No.(DOT)	: UN3270
Proper Shipping Name (DOT)	: Nitrocellulose membrane filters with not more than 12.6% nitrogen, by dry mass
Class (DOT)	: 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 4.1 - Flammable solid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 212
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Special Provisions (49 CFR 172.102)	: 43 - The membrane filters, including paper separators and coating or backing materials, that are present in transport, must not be able to propagate a detonation as tested by one of the tests described in the UN Manual of Tests and Criteria, Part I, Test series 1(a) (IBR, see 171.7 of this subchapter). On the basis of the results of suitable burning rate tests, and taking into account the standard tests in the UN Manual of Tests and Criteria, Part III, subsection 33.2.1 (IBR, see 171.7 of this subchapter), nitrocellulose membrane filters in the form in which they are to be transported that do not meet the criteria for a Division 4.1 material are not subject to the requirements of this subchapter. Packaging must be so constructed that explosion is not possible by reason of increased internal pressure. Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the requirements of this subchapter when contained individually in an article or a sealed packet. A1 - Single packaging are not permitted on passenger aircraft.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 151
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 15 kg

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DOT Vessel Stowage Location	: D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

nitrocellulose, dry (9004-70-0)

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:

H201

Explosive; mass explosion hazard

NFPA health hazard

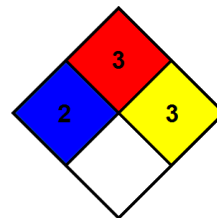
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 3 - Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or must be heated under confinement before initiation.



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.



Developer B

Safety Data Sheet

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

Date of issue: 01/01/2017

Revision date: 05/11/2017

Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Developer B
Product code : 091D

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

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

Developer B

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.
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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.
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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information	: No supplementary information available.
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Transportation of Dangerous Goods

Transport by sea

Air transport

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

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.



Fixer A

Safety Data Sheet

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

Date of issue: 01/01/2017

Revision date: 05/11/2017

Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Fixer A
Product code : 133F

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 - 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

Skin corrosion/irritation Category 1A H314 Causes severe skin burns and eye damage

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) :

- P260 - Do not breathe dust/fume/gas/mist/vapors/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
- P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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)
- P363 - Wash contaminated clothing before reuse.
- 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 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
hydrogen chloride, conc=36%, aqueous solution (Note B)	hydrochloric acid, conc=37%, aqueous solution	(CAS-No.) 7647-01-0	10 - 50	Skin Corr. 1A, H314 STOT SE 3, H335
potassium iodide	antistrumin / asmofug E / ceiododin / hydriodic acid, potassium / iodic acid, potassium salt / iodostin / jodid / K1-N / kali iodide / KI-N / knollide / NSC 77362 / pherajod / potassium iodide, briquettes / potassium moniodide / potide / reagent A - chlorine (test kit) / Thyro-Block / thyroiod	(CAS-No.) 7681-11-0	2 - 5	Not classified

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

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 general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/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 (acute and delayed)

- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

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. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/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

- Methods for cleaning up : Take up liquid spill into absorbent material.

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

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 : Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Wear personal protective equipment. Use only outdoors or in a well-ventilated area.

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. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Fixer A	
No additional information available	
potassium iodide (7681-11-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	0.01 ppm (Iodides; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
hydrogen chloride, conc=36%, aqueous solution (7647-01-0)	
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.

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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

potassium iodide (7681-11-0)	
LD50 oral rat	2779 mg/kg (Rat)
LD50 dermal rabbit	3160 mg/kg (Rabbit)
ATE US (oral)	2779 mg/kg body weight
ATE US (dermal)	3160 mg/kg body weight

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Eye damage, category 1, implicit
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

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
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Safety Data Sheet

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

Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

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

potassium iodide (7681-11-0)	
LC50 fish 1	1788.85 mg/l (LC50; 96 h)
EC50 Daphnia 1	483.68 mg/l (LC50; 48 h)
hydrogen chloride, conc=36%, aqueous solution (7647-01-0)	
LC50 fish 1	282 mg/l (96 h, Gambusia affinis, Pure substance)
EC50 Daphnia 1	< 56 mg/l (72 h, Daphnia magna, Pure substance)

12.2. Persistence and degradability

potassium iodide (7681-11-0)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
hydrogen chloride, conc=36%, aqueous solution (7647-01-0)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

potassium iodide (7681-11-0)	
Bioaccumulative potential	Not bioaccumulative.
hydrogen chloride, conc=36%, aqueous solution (7647-01-0)	
Log Pow	0.25 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)	
Ecology - soil	No (test)data on mobility of the components available. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

potassium iodide (7681-11-0)

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

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	5000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

15.2. International regulations

CANADA

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

Listed on the Canadian DSL (Domestic Substances List)

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:

H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

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.



Dilution Buffer for Protein dotMETRIC

Safety Data Sheet

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

Date of issue: 05/23/2013

Revision date: 05/11/2017

Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Dilution Buffer for Protein dotMETRIC
Product code : 171D

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 - 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

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
citric acid	1,2,3-propanetricarboxylic acid, 2-hydroxy- / 1,2,3-propanetricarboxylic acid, 2-hydroxy-, anhydrous / 2-hydroxy-1,2,3-propanetricarboxylic acid / 2-hydroxy-1,2,3-propanetricarboxylic acid / 2-hydroxy-1,2,3-propanetricarboxylic acid, anhydrous / aciletten / anhydrous citric acid / beta-hydroxytricarballic acid / beta-hydroxytricarballic acid, anhydrous / beta-hydroxytricarboxylic acid / citretten / citric acid / citric acid anhydrous fine granular 16/40 / citric acid anhydrous granular / citric acid anhydrous granular 5N / citric acid anhydrous medium granular / citric acid anhydrous powder / citro / citroenzuur, anhydraat / E 330 / E330 / FEMA no 2306 / hydroxytricarballic acid / MC-1, acidic membrane cleaner / NSC 30279	(CAS-No.) 77-92-9	2 - 5	Eye Irrit. 2, H319

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Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
sodium dodecyl sulphate	AI3-00356 / akyposal SDS / aquarex ME / aquarex methyl / avirol 101 / avirol 118 conc / berol 452 / carsonol SLS / carsonol SLS paste B / carsonol SLS special / casonol SLS pasta B / conco sulfate WA / conco sulfate WA1200 / conco sulfate WA-1200 / conco sulfate WA1245 / conco sulfate WA-1295 / conco sulfate WAG / conco sulfate WAN / conco sulfate WAS / conco sulfate WN / cycloryl 21 / cycloryl 31 / cycloryl 580 / cycloryl 585N / dehydag sulfate GL emulsion / dehydag sulphate GL emulsion / detergent 66 / dodecyl alcohol,hydrogen sulfate, sodium salt / dodecyl sodium sulfate / dodecyl sulfate sodium / dodecyl sulfate sodium salt / dodecylhydrogensulfate sodium salt / dreft / duponal / duponal WAQE / duponal / duponal C / duponal ME / duponal METHYL / duponal QX / duponal WA / duponal WA dry / duponal WAQ / duponal WAQA / duponal WAQE / duponal WAQM / EMAL 0 / EMAL 10 / emersal 6400 / empicol LPZ / empicol LS 30 / empicol LX / emulsifier n° 104 / finasol osr(sub 2) / gaedinel / hexamol SLS / incronol SLS / irium / jordanol SL-300 / lanette wax S / lauryl sodium sulfate / lauryl sulfate sodium / lauryl sulfate sodium salt / maprobix neu / maprofix 563 / maprofix LK / maprofix WAC / maprofix wac LA / melanol CL / melanol CL 30 / monododecyl sodium sulfate / monogen Y 100 / montopol la paste / n-dodecyl sulfate sodium / neutrazyme / nikkol SLS / odoripon AL 95 / orvus WA paste / P and G emulsifier 104 / perklankrol ESD 60 / perlandrol L / perlankrol L / product n° 161 / product n° 75 / quolac EX-UB / rewopol NLS 30 / richonol A / richonol AF / richonol C / SDS (= sodium dodecyl sulphate) / silfopon WA 1 special / silfopon WA 2 / sinnopon LS 100 / sinnopon LS 95 / sintapon L / sipex OP / sipex SB / sipex SD / sipex SP / sipex UB / sipon LS / sipon LS 100 / sipon LSB / sipon PD / sipon WD / SLS (= sodium lauryl sulfate) / sodium dodecyl sulphate / sodium lauryl sulfate / sodium lauryl sulfate, powder / sodium lauryl sulphate / sodium monododecyl sulfate / sodium monolauryl sulfate / sodium N-dodecyl sulfate / solsol needles / standapol 112 conc / standapol NLS 90 / standapol WA- AC / standapol WAQ / standapol WAQ special / standapol WAS100 / steinapol NLS 90 / stepanol ME / stepanol ME DRY / stepanol ME DRY AW / stepanol methyl / stepanol METHYL DRY AW / stepanol T28 / stepanol WA / stepanol WA paste / stepanol WA- 100 / stepanol WAC / stepanol WAQ / sterling WA paste / sterling WAQ-CH / sterling waq-cosmetic / sulfetal L 95 / sulfopon WA3 / sulfopon WAL / sulfotex WA / sulfotex WALA / sulfuric acid	(CAS-No.) 151-21-3	2 - 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319
06/28/2019	monododecyl sodium salt / sulfuric acid, monododecyl ester, sodium salt / swascol 1P / swascol 3L / swascol 4L / syntapon L / syntapon L pasta / tarapon K12 / texapon DL conc / texapon K12 /			2/8

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Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether	2-[4-(2,4,4-trimethylpentan-2-yl)phenoxy]ethanol / 4(1,1,3,3-tetramethylbutyl)phenyl polyethylene glycol / poly(oxy-1,2-ethanediyl), alpha-(4-(1,1,3,3-tetramethylbutyl)phenyl)-omega-hydroxy- / polyethylene glycol tert-octylphenyl ether / tert-octylphenoxypropoxyethanol / TRITON X-100	(CAS-No.) 9002-93-1	<= 2	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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.

Dilution Buffer for Protein dotMETRIC

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Dilution Buffer for Protein dotMETRIC
No additional information available
sodium dodecyl sulphate (151-21-3)
No additional information available
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
No additional information available
citric acid (77-92-9)
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

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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

sodium dodecyl sulphate (151-21-3)	
LD50 oral rat	1200 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	< 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
ATE US (oral)	1200 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)	
LD50 oral rat	1800 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	8000 mg/kg (Rabbit, Literature study, Dermal)
ATE US (oral)	1800 mg/kg body weight
ATE US (dermal)	8000 mg/kg body weight
citric acid (77-92-9)	
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

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

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Dilution Buffer for Protein dotMETRIC

Safety Data Sheet

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

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.

polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)	
LC50 fish 1	8.9 mg/l (96 h, Pimephales promelas, Literature study)
EC50 Daphnia 1	26 mg/l (48 h, Daphnia magna, Literature study)
citric acid (77-92-9)	
LC50 fish 1	440 - 760 mg/l (Equivalent or similar to OECD 203, 48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

sodium dodecyl sulphate (151-21-3)	
Persistence and degradability	Readily biodegradable in water.
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)	
Persistence and degradability	Not readily biodegradable in water.
Chemical oxygen demand (COD)	2.19 mg/g
ThOD	2.16 g O ₂ /g substance
citric acid (77-92-9)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.42 g O ₂ /g substance
Chemical oxygen demand (COD)	0.728 g O ₂ /g substance
ThOD	0.686 g O ₂ /g substance
BOD (% of ThOD)	0.89 (20 day(s), Literature study)

12.3. Bioaccumulative potential

sodium dodecyl sulphate (151-21-3)	
BCF fish 1	3.9 - 5.3 (72 h, Cyprinus carpio)
BCF fish 2	7.15 (Pisces, Chronic)
Log Pow	<= -2.03 (Calculated, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)	
Log Pow	4.86 (Estimated value)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).
citric acid (77-92-9)	
BCF other aquatic organisms 1	3.2 (Other, Calculated value)
Log Pow	-1.8 - -1.55 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

sodium dodecyl sulphate (151-21-3)	
Surface tension	0.0252 N/m (23 °C, 1 g/l, EU Method A.5: Surface tension)
Log Koc	1.545 (log Koc, SRC PCKOCWIN v2.0, Experimental value)
Ecology - soil	Highly mobile in soil.
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)	
Ecology - soil	No (test)data on mobility of the substance available.
citric acid (77-92-9)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

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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

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

sodium dodecyl sulphate (151-21-3)

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

polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)

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

EPA TSCA Regulatory Flag

XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

citric acid (77-92-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

citric acid (77-92-9)

Listed on the Canadian DSL (Domestic Substances List)

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

Dilution Buffer for Protein dotMETRIC

Safety Data Sheet

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

Full text of H-phrases:

H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H401	Toxic to aquatic life
H411	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.