



Tri-Xtract

Safety Data Sheet

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

Date of issue: 12/09/2015

Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name. : Tri-Xtract
Product code : 214T, 786-652, 786-653

1.2. Relevant identified uses of the substance or mixture and 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
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

Classification (GHS-US)

Flammable liquids Category 4	H227
Acute toxicity (oral) Category 3	H301
Acute toxicity (dermal) Category 3	H311
Acute toxicity (inhalation:vapour) Category 3	H331
Acute toxicity (inhalation:dust,mist) Category 4	H332
skin corrosion/irritation Category 1B	H314
Serious eye damage/eye irritation Category 1	H318
Germ cell mutagenicity Category 2	H341
Specific target organ toxicity (repeated exposure) Category 2	H373
Hazardous to the aquatic environment - Acute Hazard Category 3	H402
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US) : Danger

Contains : guanidine thiocyanate; ammoniumthiocyanate; phenol, solid

Hazard statements (GHS-US) : H227 - Combustible liquid
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
H341 - Suspected of causing genetic defects
H373 - May cause damage to organs through prolonged or repeated exposure
H402 - Harmful to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

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P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash ... thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - If swallowed: Immediately call a poison center/doctor/...
P301 + P330 + P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302 + P352 - If on skin: Wash with plenty of water/...
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
P308 + P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a poison center/doctor/...
P311 - Call a poison center/doctor/...
P312 - Call a poison center/doctor/... if you feel unwell
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see ... on this label)
P330 - Rinse mouth
P361 - Take off immediately all contaminated clothing
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use ... to extinguish
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to ..

2.3. Other hazards

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	Product identifier	%	Classification (GHS-US)
phenol, solid	(CAS No) 108-95-2	22.8 - 26.6	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation:dust,mist), H330
ammoniumthiocyanate	(CAS No) 1762-95-4	2 - 5	Acute Tox. 4 (Oral), H302
guanidine thiocyanate	(CAS No) 593-84-0	< 2	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Aquatic Chronic 3, H412

Full text of H-phrases: 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. Take medical advice.
First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a physician immediately. Do NOT induce vomiting.

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

Symptoms/injuries after skin contact : Burns.
Symptoms/injuries after eye contact : Serious damage to eyes.
Symptoms/injuries after ingestion : Burns.

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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.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.

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

5.3. Advice for firefighters

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 : NO open flames, NO sparks, and NO smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing.

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 : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. 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 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing.

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 in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

guanidine thiocyanate (593-84-0)

Not applicable

ammoniumthiocyanate (1762-95-4)

Not applicable

phenol, solid (108-95-2)

ACGIH ACGIH TWA (ppm)

5 ppm (Phenol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

Not applicable

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8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Protective gloves.
Eye protection	: Safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear respiratory protection.
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
Color	: Mixture contains one or more component(s) which have the following colour(s): Colourless to white White to light yellow Colourless to light red Colourless Pure substance: colourless to white On exposure to air: rose to brown Dark red to violet
Odor	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): Odourless No data available on odour Irritating/pungent odour Sweet odour Aromatic odour
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)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Solubility	: Water: Solubility in water of component(s) of the mixture : • guanidine thiocyanate: 135 g/100ml • ammoniumthiocyanate: 163 g/100ml • glycerol: 100 g/100ml (25 °C, Complete) • phenol, solid: 8.4 g/100ml (20 °C) • methyl red: g/100ml (25 °C, insoluble) 3.67E-4
Log Pow	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 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

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

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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: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Toxic if inhaled.
Inhalation:dust/mist: Harmful if inhaled.

Tri-Xtract	
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (vapours)	3.000 mg/l/4h
ATE US (dust,mist)	1.203 mg/l/4h

guanidine thiocyanate (593-84-0)	
LD50 oral rat	282 mg/kg (Rat)
ATE US (oral)	500.000 mg/kg body weight

ammoniumthiocyanate (1762-95-4)	
LD50 oral rat	750 mg/kg (Rat; Inconclusive, insufficient data)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Read-across; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	750.000 mg/kg body weight

phenol, solid (108-95-2)	
LD50 oral rat	650 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rat	660 mg/kg (Rat; Experimental value; Equivalent or similar to OECD 402)
LD50 dermal rabbit	850 - 1400 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.32 mg/l/4h (Rat; Literature study)
ATE US (oral)	650.000 mg/kg body weight
ATE US (dermal)	660.000 mg/kg body weight
ATE US (vapours)	0.320 mg/l/4h
ATE US (dust,mist)	0.320 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Suspected of causing genetic defects.
Carcinogenicity : Not classified

phenol, solid (108-95-2)	
IARC group	3 - Not Classifiable

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/injuries after skin contact : Burns.
Symptoms/injuries after eye contact : Serious damage to eyes.
Symptoms/injuries after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

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

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ammoniumthiocyanate (1762-95-4)	
EC50 Daphnia 1	3.56 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	150 mg/l (EC20; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)
phenol, solid (108-95-2)	
LC50 other aquatic organisms 1	0.04 mg/l (4 days; Rana sp.; LC50)
EC50 Daphnia 2	6.6 mg/l (EC50; 48 h; Daphnia magna; Static system)

12.2. Persistence and degradability

guanidine thiocyanate (593-84-0)	
Persistence and degradability	Biodegradability in water: no data available.
ammoniumthiocyanate (1762-95-4)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	< 0.010 g O ₂ /g substance
Chemical oxygen demand (COD)	0.8545 g O ₂ /g substance
phenol, solid (108-95-2)	
Persistence and degradability	Readily biodegradable in water. Photolysis in water. Readily biodegradable in the soil. Inhibits biodegradation processes in the soil. Low potential for adsorption in soil. Photooxidation in the air.
Biochemical oxygen demand (BOD)	1.68 g O ₂ /g substance
Chemical oxygen demand (COD)	2.28 g O ₂ /g substance
ThOD	2.38 g O ₂ /g substance
BOD (% of ThOD)	0.71

12.3. Bioaccumulative potential

guanidine thiocyanate (593-84-0)	
Bioaccumulative potential	No bioaccumulation data available.
ammoniumthiocyanate (1762-95-4)	
Log Pow	-2.29 (Calculated; KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
phenol, solid (108-95-2)	
Log Pow	1.47 (Experimental value; Equivalent or similar to OECD 117; 30 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

phenol, solid (108-95-2)	
Surface tension	0.0713 N/m (20 °C)

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2821 Phenol solutions, 6.1, III

UN-No.(DOT) : UN2821

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DOT Proper Shipping Name : Phenol solutions
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 6.1 - Poison



Packing group (DOT) : III - Minor Danger
Dangerous for the environment : Yes
Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672)
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel
Emergency Response Guide (ERG) Number : 153
Other information : No supplementary information available.

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

guanidine thiocyanate (593-84-0)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
ammoniumthiocyanate (1762-95-4)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
CERCLA RQ	5000 lb

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phenol, solid (108-95-2)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ

1000 lb

SARA Section 302 Threshold Planning
Quantity (TPQ)

10000 lb 500lb if the substance is solid in powder form with particle size less than 100
microns, or is in solution or molten form

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases::

H227	Combustible liquid
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful 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