

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-887

Trichloroacetic acid (TCA) Solution, 10% (w/v)

Size: 1L



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Date of issue: 5/8/2014 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 : TCA (Trichloroacetic acid) Solution, 10% w/v

 EC Index-No.
 : 607-004-00-7

 EC-No.
 : 200-927-2

 CAS-No.
 : 76-03-9

 Product code
 : 443A

Type of product : Solution,Group
Formula : C2HCl3O2

Synonyms : aceto caustin, 5%≤conc<10%, aqueous solutions / amchem grass killer, 5%≤conc<10%,

aqueous solutions / konesta (=trichloroacetic acid), 5%<conc<<10%, aqueous solutions / TCA (=trichloroacetic acid), 5%<conc<<10%, aqueous solutions / trichloroacetic acid, 5%<a href="conc<10%"><conc<10%, aqueous solutions / trichloroethanoic acid, 5%<a href="conc<10%"><conc<10%, aqueous

solutions

Product group : Raw material BIG No : 06563

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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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	

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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
Specific target organ toxicity — Single exposure, Category 3, H335

Respiratory tract irritation

Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

May cause respiratory irritation. Causes severe skin burns and eye damage. Toxic to aquatic life with long lasting effects. Suspected of causing cancer. Toxic to aquatic life.

2.2. Label elements

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

Hazard pictograms (CLP)







GHS05

GHS07

GHS09

CLP Signal word

Hazard statements (CLP)

: Danger

: H314 - Causes severe skin burns and eye damage.

H335 - May cause respiratory irritation.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

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+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. P312 - Call a POISON CENTRE or doctor if you feel unwell.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P391 - Collect spillage.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

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]
Deionized water	(CAS-No.) 7732-18-5	>= 80	Not classified
trichloroacetic acid	(CAS-No.) 76-03-9 (EC-No.) 200-927-2 (EC Index-No.) 607-004-00-7	10 - 50	Skin Corr. 1A, H314 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	Specific concentration limits	
trichloroacetic acid	(CAS-No.) 76-03-9 (EC-No.) 200-927-2 (EC Index-No.) 607-004-00-7	(1 = <c 100)="" 3,="" <="" h335<="" se="" stot="" td=""></c>	

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Full text of H-statements: see section 16

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4.1. Description of first aid measures

First-aid measures general

First-aid measures after inhalation

First-aid measures after skin contact

First-aid measures after eye contact

First-aid measures after ingestion

: 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.

: Remove the victim into fresh air. Immediately consult a doctor/medical service. Doctor: administration of corticoid spray.

: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Take the container/vomit to the doctor/hospital. Do not give chemical antidote. Ingestion of large quantities: immediately to hospital.

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

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract.

Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung

oedema.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin. Slow-healing wounds.

Symptoms/effects after eye contact : Corrosion of the eye tissue.

Symptoms/effects after ingestion : Nausea. Vomiting. Possible esophageal perforation. Burns to the gastric/intestinal mucosa.

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 : DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving

a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity

Hazard".

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure

to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors

and windows

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water

spray. Take account of toxic fire-fighting water. Use water moderately and if possible

collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

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. Large spills/in enclosed spaces: compressed air

apparatus. Large spills/in enclosed spaces: gas-tight suit.

Emergency procedures : Mark the danger area. No naked flames. Corrosion-proof appliances. Wash contaminated

clothes. Large spills/in confined spaces: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

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

Prevent soil and water pollution. Prevent spreading in sewers.

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6.3. Methods and material for containment and cleaning up

For containment : Contain release

: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Take account of toxic/corrosive precipitation water. Heat exposure: dilute toxic gas/vapour with water spray.

Methods for cleaning up

Take up liquid spill into absorbent material, e.g.: dry sand/earth or powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

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 : Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry

operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.

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.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) bases. metals.

Storage area : Ventilation at floor level. Keep locked up. Provide for a tub to collect spills. Unauthorized persons are not admitted.

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Special rules on packaging : SPECIAL REQUIREMENTS: closing, corrosion-proof, clean, correctly labelled, meet the

legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: polyethylene. polypropylene. glass. PVC. Teflon. MATERIAL TO

AVOID: aluminium. zinc

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Materials for protective clothing:

GIVE GOOD RESISTANCE: nitrile rubber. GIVE LESS RESISTANCE: polyethylene

Hand protection:

Gloves

Eye protection:

Face shield

Skin and body protection:

Corrosion-proof clothing

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

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

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Appearance : Liquid.

Molecular mass : 163.39 g/mol
Colour : Colourless.

Odour : Irritating/pungent odour. Odour threshold : No data available : 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 : Not applicable Auto-ignition temperature : No data available Decomposition temperature No data available Flammability (solid, gas) : Not applicable

Relative density : No data available Solubility : Soluble in ethanol. Soluble in ether.

Log Pow : 1.33 (Experimental value)

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

VOC content : 5 - 10 %

Other properties : Gas/vapour heavier than air at 20°C. Physical properties depending on the concentration.

Acid reaction.

: No data available : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapour pressure

Relative vapour density at 20 °C

Reacts violently with (some) bases: release of heat.

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

TCA (Trichloroacetic acid) Solution, 10% w/v (76-03-9)

LD50 oral rat > 5000 mg/kg (Rat, Oral)

trichloroacetic acid (76-03-9)

LD50 oral rat > 5000 mg/kg (Rat, Oral)

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

TCA (Trichloroacetic acid) Solution, 10% w/v Safety Data Sheet

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trichloroacetic acid (76-03-9)	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
·	: Not classified
Potential adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Causes severe skin burns. Causes serious eye damage.
SECTION 12: Ecological information	
12.1. Toxicity	Dengaraya far the anyliranment
6, 6	: Dangerous for the environment. : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
	: Toxic to aquatic organisms. Groundwater pollutant. Water pollutant (surface water). pH shift.
Acute aquatic toxicity	: Not classified
•	: Toxic to aquatic life with long lasting effects.
trichloroacetic acid (76-03-9)	
LC50 fish 1	2000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Static system, Fresh water, Weight of evidence)
EC50 Daphnia 1	2000 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	0.46 mg/l (Other, 14 day(s), Chlorella sp., Static system, Fresh water, Experimental value, Nominal concentration)
12.2. Persistence and degradability	
TCA (Trichloroacetic acid) Solution, 10% w/v	(76-03-9)
Persistence and degradability	Contains non readily biodegradable component(s).
trichloroacetic acid (76-03-9)	
Persistence and degradability	Contains non readily biodegradable component(s).
12.3. Bioaccumulative potential	
TCA (Trichloroacetic acid) Solution, 10% w/v	(76-03-9)
Log Pow	1.33 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
triphloropoetic acid (75.02.0)	
trichloroacetic acid (76-03-9)	0.4. 4.7
BCF fish 1	0.4 - 1.7 mg/l (6 week(s), Cyprinus carpio, Fresh water, Experimental value)
Log Pow	1.33 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
12.4. Mobility in soil	
TCA (Trichloroacetic acid) Solution, 10% w/v	(76-03-9)
Ecology - soil	No (test)data on mobility of the components available.
trichloroacetic acid (76-03-9)	
Surface tension	0.278 N/m (80 °C)
Log Koc	0 (log Koc, Other, Experimental value)
Ecology - soil	Highly mobile in soil.
12.5. Results of PBT and vPvB assessment	
Component	
trichloroacetic acid (76-03-9)	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
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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

: Avoid any discharge of the product into waste water. Remove waste in accordance with local and/or national regulations. 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. Remove to an incinerator for chlorinated waste materials with energy recovery.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No

1357/2014 and Regulation (EU) No 2017/997.

European List of Waste (LoW) code

: 15 01 10* - packaging containing residues of or contaminated by dangerous substances 16 03 05* - organic wastes containing dangerous substances

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : Not regulated UN-No. (IMDG) : Not regulated UN-No. (IATA) : Not regulated UN-No. (ADN) : UN 2564 UN-No. (RID) : Not regulated UN-No. (RID)

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated

Proper Shipping Name (ADN) : Trichloroacetic acid solution

Proper Shipping Name (RID) : Not regulated

Transport document description (ADN) : UN 2564 Trichloroacetic acid solution, 8, III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

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

IMDG

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

IATA

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

ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

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

14.4. Packing group

Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : III

Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

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14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Classification code (ADN) : C3
Carriage permitted (ADN) : T

Rail transport Not regulated

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.

VOC content : 5 - 10 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:			
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1		
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1		
Skin Corr. 1A	Skin corrosion/irritation, Category 1A		
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation		
H314	Causes severe skin burns and eye damage.		
H335	May cause respiratory irritation.		
H400	Very toxic to aquatic life.		
H410	Very toxic to aquatic life with long lasting effects.		
H411	Toxic to aquatic life with long lasting effects.		

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.

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