

## Safety Data Sheet

according to UK REACH Regulation

### Trichloroacetic Acid 1.0 mol/l

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 1 of 12

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

##### 1.1. Product identifier

Trichloroacetic Acid 1.0 mol/l

UFI: KTSC-01H6-C008-G1R3

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

###### Use of the substance/mixture

Use as laboratory reagent

###### Uses advised against

Any non-intended use.

##### 1.3. Details of the supplier of the safety data sheet

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60      Telefax: +49 (0) 69 / 400 3019-64  
E-mail: info@morphisto.de  
Contact person: Morphisto GmbH  
E-mail: gefahrstoffmanagement@morphisto.de  
Internet: http://www.morphisto.de

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

#### SECTION 2: Hazards identification

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

###### GB CLP Regulation

Met. Corr. 1; H290  
Skin Corr. 1; H314  
Eye Dam. 1; H318  
STOT SE 3; H335  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

###### Hazard components for labelling

trichloroacetic acid

Signal word: Danger

###### Pictograms:



###### Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H411 Toxic to aquatic life with long lasting effects.

###### Precautionary statements

P260 Do not breathe mist/vapours/spray.

## Safety Data Sheet

according to UK REACH Regulation

### Trichloroacetic Acid 1.0 mol/l

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 2 of 12

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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/doctor.
P391	Collect spillage.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



#### Hazard statements

H314

#### Precautionary statements

P260-P280-P303+P361+P353-P305+P351+P338-P310

#### 2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
76-03-9	trichloroacetic acid	10 - < 15 %
	200-927-2	
	607-004-00-7	
	01-2119485186-30	
	Skin Corr. 1A, Aquatic Acute 1, Aquatic Chronic 1; H314 H400 H410	

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
76-03-9	200-927-2	trichloroacetic acid	10 - < 15 %
		oral: LD50 = 3320 mg/kg STOT SE 3; H335: >= 1 - 100	

##### Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

### SECTION 4: First aid measures

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 3 of 12

**4.1. Description of first aid measures****General information**

Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

First aider: Pay attention to self-protection!

Remove contaminated, saturated clothing immediately.

**After inhalation**

Provide fresh air. Medical treatment necessary. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration.

Where appropriate artificial ventilation. In case of respiratory tract irritation, consult a physician. In the case of lung irritation: Primary treatment using corticoide spray, eg. Auxiluson spray, Pulmicort-dosage-spray.

(Auxiluson and Pulmicort are registered trademarks.)

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Remove contaminated, saturated clothing immediately. Call a physician immediately.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

**After ingestion**

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Adverse human health effects and symptoms: Gastric perforation. Do not allow a neutralisation agent to be drunk. Call a physician immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps.

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

First Aid, decontamination, treatment of symptoms.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Atomized water.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride (HCl). Chlorine (Cl<sub>2</sub>). Gases/vapours, irritant

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire and/or explosion do not breathe fumes.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 4 of 12

**General advice**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Ventilate affected area.

Avoid contact with skin, eyes and clothes. Wear personal protection equipment (refer to section 8).

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Collect contaminated fire extinguishing water separately.

This must not be discharged into drains. Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

**6.3. Methods and material for containment and cleaning up****For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory). Provide adequate ventilation.

Use personal protection equipment. (See section 8.)

Do not mix with: alkali

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product. Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse.

**Further information on handling**

Avoid contact with skin, eyes and clothes.

General protection and hygiene measures: See section 8.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep container tightly closed in a cool, well-ventilated place.

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Suitable material for Container: polyethylene.

**Hints on joint storage**

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Radioactive substances. Infectious substances. Food and fodder.

**Further information on storage conditions**

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 15-25 °C

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 5 of 12

Protect against: frost. UV-radiation/sunlight. heat. Humidity

**7.3. Specific end use(s)**

laboratory reagent

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
76-03-9	trichloroacetic acid			
Worker DNEL, acute		dermal	local	1,41 mg/person/day
Worker DNEL, long-term		inhalation	systemic	124,3 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	124,3 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	1,41 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	1,41 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
76-03-9	trichloroacetic acid	
Freshwater		0,00017 mg/l
Freshwater (intermittent releases)		0,14 mg/l
Marine water		0,000017 mg/l
Marine water (intermittent releases)		0,017 mg/l
Freshwater sediment		0,000143 mg/kg
Marine sediment		0,000014 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,02 mg/kg

**Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls**

**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory).

Provide adequate ventilation.

**Individual protection measures, such as personal protective equipment**
**Eye/face protection**

Suitable eye protection: goggles. Eye glasses with side protection EN 166

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four

## Safety Data Sheet

according to UK REACH Regulation

### Trichloroacetic Acid 1.0 mol/l

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 6 of 12

control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Pull-over gloves of rubber. EN ISO 374

Suitable material:

(penetration time (maximum wearing period):  $\geq$  8 h):

Butyl rubber. (0,5 mm)

FKM (fluororubber). (0,4 mm)

CR (polychloroprenes, Chloroprene rubber). (0,5 mm)

Protective clothing should be selected, depending on concentration and quantity of the hazardous substance.

The chemical resistance of the products should be discussed with suppliers.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

#### Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at: generation/formation of aerosols

Suitable respiratory protective equipment:: Combination filtering device (EN 14387) Type: A-P2/3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

#### Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid	
Colour:	colourless	
Odour:	stinging	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		>100 °C
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		0-1
Viscosity / kinematic:		not determined
Water solubility:		miscible.
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not determined
Density (at 20 °C):		~1 g/cm <sup>3</sup>

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 7 of 12

Relative vapour density: not determined

**9.2. Other information**
**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Sustaining combustion:

Not sustaining combustion

Oxidizing properties

The product is not: oxidising.

**Other safety characteristics**

Evaporation rate:

not determined

Viscosity / dynamic:

not determined

Flow time:

not determined

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

Possibility of hazardous reactions. No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Base, Peroxides, Oxidizing agent. Exothermic reaction with: Strong alkali

**10.4. Conditions to avoid**

Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Keep away from: Base, Oxidizing agent, Peroxides. Oxidizing agents, strong. strong alkalis

**10.6. Hazardous decomposition products**

 Resulting from the use of the product: Chlorine. In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride (HCl). Chlorine (Cl<sub>2</sub>). Gases/vapours, irritant

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in GB CLP Regulation**
**Acute toxicity**

Based on available data, the classification criteria are not met.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
76-03-9	trichloroacetic acid				
	oral	LD50 mg/kg	3320	Rat	IUCLID

**Irritation and corrosivity**

Causes severe skin burns and eye damage. (On basis of test data)

Causes serious eye damage. (On basis of test data)

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

## Safety Data Sheet

according to UK REACH Regulation

### Trichloroacetic Acid 1.0 mol/l

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 8 of 12

#### STOT-single exposure

May cause respiratory irritation. (trichloroacetic acid)

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

#### Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

### SECTION 12: Ecological information

#### 12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
76-03-9	trichloroacetic acid					
	Acute fish toxicity	LC50 mg/l	2000	96 h	Pimephales promelas	suppliers SDS.
	Acute crustacea toxicity	EC50 mg/l	2000	48 h	Daphnia magna	suppliers SDS.

#### 12.2. Persistence and degradability

No information available.

#### 12.3. Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
76-03-9	trichloroacetic acid	1,33

#### 12.4. Mobility in soil

The product has not been tested.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. Other adverse effects

The product has not been tested.

#### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Observe in addition any national regulations! Consult the local waste



**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 9 of 12

disposal expert about waste disposal. Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

**List of Wastes Code - residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**List of Wastes Code - used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**
**Land transport (ADR/RID)**

**14.1. UN number or ID number:** UN 2564  
**14.2. UN proper shipping name:** TRICHLOROACETIC ACID SOLUTION  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Classification code: C3  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 80  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 2564  
**14.2. UN proper shipping name:** TRICHLOROACETIC ACID SOLUTION  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Classification code: C3  
 Limited quantity: 1 L  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2564

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 10 of 12

**14.2. UN proper shipping name:** TRICHLOROACETIC ACID SOLUTION  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Marine pollutant: YES  
 Special Provisions: -  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 2564  
**14.2. UN proper shipping name:** TRICHLOROACETIC ACID SOLUTION  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Special Provisions: A3 A803  
 Limited quantity Passenger: 0.5 L  
 Passenger LQ: Y840  
 Excepted quantity: E2  
 IATA-packing instructions - Passenger: 851  
 IATA-max. quantity - Passenger: 1 L  
 IATA-packing instructions - Cargo: 855  
 IATA-max. quantity - Cargo: 30 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: TCA (ISO); trichloroacetic acid

**14.6. Special precautions for user**

Warning: strongly corrosive. See section 8.

**14.7. Maritime transport in bulk according to IMO instruments**

not relevant

**SECTION 15: Regulatory information**
**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

**Additional information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**National regulatory information**

**Safety Data Sheet**

according to UK REACH Regulation

**Trichloroacetic Acid 1.0 mol/l**

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 11 of 12

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

**15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
trichloroacetic acid

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,4,5,6,7,9,11,12,13,15,16.

Rev. 2,0; 14.01.23; Individual safety data sheet based on 13383.xxxxx

Rev. 3,0; 21.06.2023; revision of the classification

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln fuerGefahrstoffe

TSCA: Toxic Substances Control Act

VOC: Volatile Organic Compounds

VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe

WGK: Wassergefaehrdungsklasse

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

## Safety Data Sheet

according to UK REACH Regulation

### Trichloroacetic Acid 1.0 mol/l

Revision date: 21.06.2023

Product code: 15454.xxxxx

Page 12 of 12

EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 PBT: persistent, bioaccumulative, toxic  
 vPvB: very persistent, very bioaccumulative  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route  
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Regulations concerning the international carriage of dangerous goods by rail  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation  
 intérieures)  
 EmS: Emergency Schedules  
 MFAG: Medical First Aid Guide  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
 IBC: Intermediate Bulk Container  
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety  
 assessment, chapter R.20 (Table of terms and abbreviations).

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
STOT SE 3; H335	Calculation method
Aquatic Chronic 2; H411	Calculation method

#### Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious 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.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*