Trichloroacetic acid 99% Analytical Grade ACS

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 16/01/2013 Revision date: 23/12/2022 Supersedes version of: 30/04/2018 Version: 2.3

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Trichloroacetic acid 99% Analytical Grade ACS
Chemical name	:	TCA (ISO); trichloroacetic acid
EC Index-No.	:	607-004-00-7
EC-No.	:	200-927-2
CAS-No.	:	76-03-9
Product code	:	TRCH-00A
Formula	:	C2HCl3O2
Other means of identification	:	Trichloroacetic acid

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

Relevant identified uses

Main use category	:	Laboratory use

1.3. Details of the supplier of the safety data sheet

Labbox Labware S.L.
Migjorn, 1
08338 Premia de Dalt, Barcelona
España
T +34 937 07 79 70, F +34 937 909 532
info@labbox.com, www.labbox.com

1.4. Emergency telephone number

Emergency number	:	+34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number. 24 hours a day, 7 days a week

Country/Area	Organisation	Emergency number
United Kingdom	National Poisons Information Service (Belfast Centre). Royal Victoria Hospital. Grosvenor Road BT12 6BA Belfast.	0344 892 0111 Only for healthcare professionals

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 1, Sub-Category 1A	H314
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

Full text of H- and EUH-statements: see section 16
Specific concentration limits (%):
(1 ≤ C < 100) STOT SE 3; H335

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS05 GHS07 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

2.3. Other hazards

Other hazards which do not result in classification : Does not contain PBT and/or vPvB substances ≥ 0.1% evaluated according to Annex XIII of REACH.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Trichloroacetic acid 99%	CAS-No.: 76-03-9 EC-No.: 200-927-2 EC Index-No.: 607-004-00-7	100

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash skin with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after skin contact : Causes severe burns.

Symptoms/effects after eye contact : Serious damage to eyes.

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. Foam. Dry powder.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area.

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".

Emergency procedures : Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Very toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Clean contaminated surfaces with an excess of water.

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. Do not breathe dust. Avoid contact during pregnancy/while nursing.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Store in a dry place. Store in a well-ventilated place. Keep cool.

Storage area : Store in a dry area. Store in a cool, well-ventilated place.

Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Trichloroacetic acid
Remark	SCOEL Recommendations (2004)
France - Occupational Exposure Limits	
Local name	Acide trichloroacétique
VLEP 8h (OEL TWA)	5 mg/m³
	1 ppm
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Portugal - Occupational Exposure Limits	
Local name	Ácido tricloroacético
OEL TWA	0,5 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Ácido tricloroacético
VLA-ED (OEL TWA)	6,8 mg/m³
	1 ppm

DNEL and PNEC

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	1,41 mg/kg bodyweight/day
Acute - systemic effects, inhalation	124,3 mg/m³
Acute - local effects, dermal	5 % in mixture
Acute - local effects, inhalation	124,3 mg/kg bw/day
Long-term - systemic effects, dermal	1,41 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	124,3 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	0,705 mg/kg bodyweight/day
Acute - systemic effects, inhalation	61,3 mg/m³
Acute - systemic effects, oral	0,705 mg/kg bodyweight/day
Acute - local effects, dermal	5 % in mixture
Long-term - systemic effects,oral	0,705 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	61,3 mg/m³
Long-term - systemic effects, dermal	0,705 mg/kg bodyweight/day
Long-term - local effects, dermal	5 % in mixture

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
PNEC (Water)	
PNEC aqua (freshwater)	0,17 µg/l
PNEC aqua (marine water)	0,017 µg/l
PNEC aqua (intermittent, freshwater)	2,7 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,143 µg/kg dw
PNEC sediment (marine water)	0,0143 µg/kg dw
PNEC (Soil)	
PNEC soil	20 µg/kg dw
PNEC (Oral)	
PNEC oral (secondary poisoning)	23,5 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. ISO 374-1.
Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Chemical goggles or face shield

Skin protection

Hand protection:
protective gloves. Nitrile rubber gloves

Respiratory protection

Respiratory protection:
Wear appropriate mask

Environmental exposure controls

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	:	Solid
Colour	:	Colourless.
Appearance	:	Crystals.
Molecular mass	:	163,39 g/mol

Odour	:	Pungent.
Odour threshold	:	Not available
Melting point	:	55,5 – 58 °C
Freezing point	:	Not available
Boiling point	:	196 – 197 °C
Flammability	:	Non flammable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	> 113 °C
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
pH	:	< 1,2 (0.1 M Solution)
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	1,33
Vapour pressure	:	1 hPa 51º C
Vapour pressure at 50°C	:	Not available
Density	:	1,63 g/cm³
Relative density	:	Not available
Relative vapour density at 20°C	:	5,64
Particle size	:	Not 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

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
LD50 oral rat	3320 mg/kg bodyweight Animal: rat, 95% CL: 3160 - 3480

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
LD50 oral	4970 mg/kg bodyweight Animal: mouse, 95% CL: 4700 - 5260

Skin corrosion/irritation : Causes severe skin burns.
pH: < 1,2 (0.1 M Solution)

Serious eye damage/irritation : Assumed to cause serious eye damage
pH: < 1,2 (0.1 M Solution)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Ecology - water : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Trichloroacetic acid 99% Analytical Grade ACS (76-03-9)	
Partition coefficient n-octanol/water (Log Pow)	1,33
Bioaccumulative potential	No bioaccumulation.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Must follow special treatment according to local regulation.
Product/Packaging disposal recommendations	:	Disposal must be done according to official regulations.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR)	:	UN 1839
UN-No. (IMDG)	:	UN 1839
UN-No. (IATA)	:	UN 1839
UN-No. (ADN)	:	UN 1839
UN-No. (RID)	:	UN 1839

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	TRICHLOROACETIC ACID
Proper Shipping Name (IMDG)	:	TRICHLOROACETIC ACID, SOLID
Proper Shipping Name (IATA)	:	Trichloroacetic acid
Proper Shipping Name (ADN)	:	TRICHLOROACETIC ACID
Proper Shipping Name (RID)	:	TRICHLOROACETIC ACID
Transport document description (ADR) (ADR)	:	UN 1839 TRICHLOROACETIC ACID, 8, II, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	:	UN 1839 TRICHLOROACETIC ACID, SOLID, 8, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	:	UN 1839 Trichloroacetic acid, 8, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	:	UN 1839 TRICHLOROACETIC ACID, 8, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	:	UN 1839 TRICHLOROACETIC ACID, 8, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8

Danger labels (ADR) : 8

:

IMDG

Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

:

IATA

Transport hazard class(es) (IATA) : 8

Danger labels (IATA) : 8

:

ADN

Transport hazard class(es) (ADN) : 8

Danger labels (ADN) : 8

:

RID

Transport hazard class(es) (RID) : 8

Danger labels (RID) : 8

:

14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C4

Limited quantities (ADR) : 1kg

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P002, IBC08

Special packing provisions (ADR) : B4

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T3

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAN, L4BN

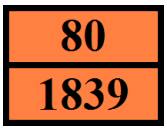
Vehicle for tank carriage : AT

Transport category (ADR) : 2

Special provisions for carriage - Packages (ADR) : V11

Hazard identification number (Kemler No.) : 80

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2X

Transport by sea

Limited quantities (IMDG) : 1 kg

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P002

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B21, B4

Tank instructions (IMDG) : T3

Tank special provisions (IMDG)	:	TP33
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SGG1, SG36, SG49
Properties and observations (IMDG)	:	Colourless, deliquescent crystals. Melting point of the pure substance: 58°C. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y844
PCA limited quantity max net quantity (IATA)	:	5kg
PCA packing instructions (IATA)	:	859
PCA max net quantity (IATA)	:	15kg
CAO packing instructions (IATA)	:	863
CAO max net quantity (IATA)	:	50kg
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C4
Limited quantities (ADN)	:	1 kg
Excepted quantities (ADN)	:	E2
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	C4
Limited quantities (RID)	:	1kg
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P002, IBC08
Special packing provisions (RID)	:	B4
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T3
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAN, L4BN
Transport category (RID)	:	2
Special provisions for carriage – Packages (RID)	:	W11
Colis express (express parcels) (RID)	:	CE10
Hazard identification number (RID)	:	80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Council Regulation (EC) for the control of dual-use items

Not listed on the COUNCIL REGULATION (EC) of dual-use items.

Explosives Precursors Regulation (EU 2019/1148)

Not listed on the Explosives Precursors list (EU)

Drug Precursors Regulation (EC 273/2004)

Not listed on the Drug Precursors list (EU)

National regulations

Denmark

Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product

Germany

Water hazard class (WGK)	:	WGK 2, Significantly hazardous to water (Classification according to AwSV; ID No. 197).

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	The substance is not listed
SZW-lijst van mutagene stoffen	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	Trichloroacetic acid 99% is listed

Poland

Polish National Regulations	:	Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225). Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797). The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended). Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923). Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154). Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended). The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488) Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended). Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141). ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891) Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-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.
H410	Very toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

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.