Trichloroethene Neat

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: CM30456
Issue date: 2018/1/3 Revision date: 2025/1/5 Supersedes version of: 2024/12/13 Version: 1.3

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Trichloroethene Neat
Chemical name	:	trichloroethylene; trichloroethene
IUPAC name	:	Trichloroethylene
EC Index-No.	:	602-027-00-9
EC-No.	:	201-167-4
CAS-No.	:	79-01-6
Product code	:	CM30456
Formula	:	C2HCl3
Synonyms	:	1,1,2-trichloroethene / 1,1-dichloro-2-chloroethylene / 1,2,2-trichloroethylene / 1-chloro-2,2-dichloroethylene / acetylene trichloride / AI3-00052 / algylen / anamenth / benzinol / betzinol / blacosolv / blancosolv / caswell No 876 / cecolene(=trichloroethene) / chlorilen / chlorylea / chlorylen / chorylen / circosolv / crawhaspol / densinfluat / dow-tri / dukeron / ethene, trichloro- / ethinyl trichloride / ethylene trichloride / ethylene, trichloro- / ethynylchloride / ethynyltrichloride / fleck-flip / flock flip / fluate / gemalgene / germalene / germalgene / lanadin / lethurin / narcogen / narkogen / narkosoid / nialk / NSC 389 / per-A-clor / perm-a-chlor / perm-a-clor / petzinol / philex / R1120 / TCE(=trichloroethene) / threthylen / threthylene / trethylene / tri / triad / trial / triasol / trichloran / trichloren / trichloroethene / Trichloroethylene / triclene / tri-clene / trielene / trielin / triethylen / triklone / trilen / trilene / trilene TE-141 / triline / trimar / trin trichloroethylene stabilized / triol / tri-plus / tri-plus M / vestrol / virran / vitran / westrosol
BIG No	:	10047

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

Relevant identified uses

Main use category	:	Professional use
Use of the substance/mixture	:	Reference material
Function or use category	:	Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.
20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.com
Web: www.spectracer.com

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital Msida MSD 2090 Msida	112 +356 2545 6508	

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (NHS Direct)	http://www.npis.org	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids Not classified	
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Germ cell mutagenicity, Category 2	H341
Carcinogenicity, Category 1B	H350
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Chronic Hazard, Category 3	H412

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

Adverse physicochemical, human health and environmental effects

May cause cancer. Suspected of causing genetic defects. May cause damage to organs through prolonged or repeated exposure. May cause drowsiness or dizziness. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) :
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H341 - Suspected of causing genetic defects.
H350 - May cause cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :
P201 - Obtain special instructions before use.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

Listed on CLP Annex VI : EC Index-No.: 602-027-00-9

2.3. Other hazards

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

The substance is 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

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
trichloroethylene substance listed on REACH Candidate List substance listed on REACH Annex XIV	CAS-No.: 79-01-6 EC-No.: 201-167-4 EC Index-No.: 602-027-00-9	≥ 95	Flam. Liq. Not classified Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.
First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

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.

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

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

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 : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
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 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Packaging materials : Store always product in container of same material as original container.

Germany

Storage class (LGK, TRGS 510) : LGK 6.1C - Combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

Joint storage table :

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.2, LGK 7
Joint storage with restrictions permitted for : LGK 4.2, LGK 4.3, LGK 5.1B
Joint storage permitted for : LGK 2B, LGK 3, LGK 4.1B, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Trichloroethene Neat (79-01-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Trichloroethylene
IOEL TWA	54,7 mg/m³ (BOEL)
	10 ppm (BOEL)
IOEL STEL	164,1 mg/m³ (BOEL)
	30 ppm (BOEL)
Remark	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Trichloroethylene
BOEL TWA	54,7 mg/m³
	10 ppm
BOEL STEL	164,1 mg/m³
	30 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)

Trichloroethene Neat (79-01-6)	
Austria - Occupational Exposure Limits	
Local name	Trichlorethen (Trichlorethylen) (R 1120)
TRK (OEL TWA)	3,3 mg/m³
	0,6 ppm
TRK (OEL STEL)	13,2 mg/m³ (4x 15(Miw) min)
	2,4 ppm (4x 15(Miw) min)
Remark	Krebserzeugend: III A2
Regulatory reference	BGBl. II Nr. 156/2021
Austria - Biological limit values	
Local name	Trichlorethen (Trichlorethylen)
BLV	40 mg/l Parameter: Trichloressigsäure - Untersuchungsmaterial: Harn - Probenahmezeitpunkt: Bei Per-Exposition
Remark	Eignung: Blut: Leberfunktionsprüfung: SGOT bis 50 U/l für Männer; bis 35 U/l für Frauen. SGPT bis 50 U/l für Männer; bis 35 U/l für Frauen. GGT bis 66 U/l für Männer; bis 39 U/l für Frauen. Eignung mit vorzeitiger Folgeuntersuchung: Bei Überschreiten von mindestens zwei der Grenzwerte im Blut; Bei Überschreitung des Grenzwertes für Trichloressigsäure im Harn; nur bei Per-Exposition. Der Zeitabstand zwischen den Untersuchungen beträgt bei Eignung: ein Jahr; bei Eignung mit vorzeitiger Folgeuntersuchung: drei Monate.
Regulatory reference	Verordnung über die Gesundheitsüberwachung am Arbeitsplatz 2017 (VGÜ 2017)
Belgium - Occupational Exposure Limits	
Local name	Trichloroéthylène # Trichlooretheen
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	137 mg/m³
	25 ppm
Remark	C: la mention “C” signifie que l’agent en question relève du champ d’application du titre 2 relatif aux agents cancérigènes, mutagènes et reprotoiques du livre VI du code de bien-être au travail, D: la mention “D” signifie que la résorption de l’agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l’exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l’agent dans l’air. # C: de vermelding “C” betekent dat het betrokken agens valt onder het toepassingsgebied van titel 2 betreffende kankerverwekkende, mutagene en reprotoxische agentia van boek VI van de codex over het welzijn op het werk, D: de vermelding “D” betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Трихлоретилен
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm

Trichloroethene Neat (79-01-6)	
Remark	Кожа (Възможен е значителен принос за общото натрупване в тялото чрез кожна експозиция)
Regulatory reference	Наредба № 10 от 26.09.2003 г. за защита на работещите от рискове, свързани с експозиция на канцерогени и мутагени при работа (изм. и доп. ДВ. бр. 28 от 2 Април 2024г.)
Croatia - Occupational Exposure Limits	
Local name	Trikloroetilen; trikloroeten
GVI (OEL TWA)	54,7 mg/m³
	10 ppm
KGVI (OEL STEL)	164,1 mg/m³
	30 ppm
Remark	Direktiva: 2019/130. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315)), Karc 1B
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Croatia - Biological limit values	
Local name	Trikloroetilen
BLV	20 mg/l Karakteristični pokazatelj: trikloroctena kiselina - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene i na kraju radnog tjedna 11,5 mmol/mol Creatinine Karakteristični pokazatelj: trikloroctena kiselina - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene i na kraju radnog tjedna 16,7 mg/g creatinine Karakteristični pokazatelj: trikloroctena kiselina - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene i na kraju radnog tjedna
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/2018)
Czech Republic - Occupational Exposure Limits	
Local name	Trichlorethen (Trichlorethylen)
PEL (OEL TWA)	54,7 mg/m³
	10 ppm
NPK-P (OEL C)	164,1 mg/m³
	30 ppm
Remark	B - u látky je zaveden biologický expoziční test (BET) v moči nebo krvi, D - při expozici se významně uplatňuje pronikání faktoru kůží, I - dráždí sliznice (oči, dýchací cesty) resp. kůži, K - karcinogen kategorie 1A a 1B (s větou H350, H350i).
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Czech Republic - Biological limit values	
Local name	Trichlorethen (Trichlorethylen)
BLV	100 mg/g creatinine Ukazatel: Trichloroctová kyselina - Biologicky vzorek: moči - Doba odběru: konec pracovního týdne 70 µmol/mmol Creatinine Ukazatel: Trichloroctová kyselina - Biologicky vzorek: moči - Doba odběru: konec pracovního týdne 200 mg/g creatinine Ukazatel: Trichlorethanol - Biologicky vzorek: moči - Doba odběru: konec směny 150 µmol/mmol Creatinine Ukazatel: Trichlorethanol - Biologicky vzorek: moči - Doba odběru: konec směny
Regulatory reference	Vyhláška č. 107/2013 Sb. (kterou se mění vyhláška č. 432/2003 Sb.)

Trichloroethene Neat (79-01-6)	
Denmark - Occupational Exposure Limits	
Local name	Trichlorethen (Trichlorethylen)
OEL TWA	33 mg/m³
	6 ppm
OEL STEL	164 mg/m³
	30 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden); K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 291 af 19/03/2024
Estonia - Occupational Exposure Limits	
Local name	Trikloroetüleen
OEL TWA	50 mg/m³
	10 ppm
OEL STEL	140 mg/m³
	25 ppm
Remark	A (Naha kaudu kergesti imenduv aine), C (Kantserogeenne aine), 24 (Trikloroetüleen sisaldab stabiliseerivaid komponente. Tehniline tetrakloroetüleen sisaldab väikestes kogustes stabilisaatoreid, sealhulgas epiklorohüdriini)
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Trikloorietyleeni
BOEL TWA	54,7 mg/m³
	10 ppm
BOEL STEL	164,1 mg/m³
	30 ppm
Remark	Iho. Syöpäsairauden vaaraa aiheuttavat ja perimää vaurioittavat tekijät
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö). Valtioneuvoston asetus (113/2024)
Finland - Biological limit values	
Local name	Trikloorietyleeni
BLV	120 µmol/l Parametri: Virtsan trikloorietikkahappo - Näytteenottoajankohta: Työvuoron jälkeen altistumisjakson lopulla
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Trichloroéthylène
VME (OEL TWA)	54,7 mg/m³
	10 ppm
VLE (OEL C/STEL)	164,1 mg/m³
	30 ppm
Remark	Valeurs règlementaires contraignantes. Cancérogène de catégorie 1B, Mutagène de catégorie 2, Risque de pénétration percutanée

Trichloroethene Neat (79-01-6)	
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 6443, 2022; Outil65; Décret n° 2021-434; Décret n° 2021-1849)
Germany - Occupational Exposure Limits (TRGS 910)	
Local name	Trichlorethen
Acceptable concentration (Volume conc.)	6 ppm
Acceptable concentration (Weight conc.)	33 mg/m³
Notes	b) Akzeptanzkonzentration assoziiert mit Risiko 4:10000
Tolerance concentration (Volume conc.)	6 ppm
Tolerance concentration (Weight conc.)	33 mg/m³
Tolerance concentration excess factor	8
Remark	(2) Die Toleranzkonzentration wurde gemäß Nummer 3.2.1 aufgrund einer nicht krebserzeugenden Wirkung festgelegt. Bei Überschreitung gelten die gleichen Maßnahmen wie bei Überschreitung des AGW.; H - Hautresorptiv
Equivalence value for acceptable concentration	12 mg/l
Equivalence value for tolerance concentration	12 mg/l
Parameter	Trichloressigsäure
Testing material	U - Urin
Testing time	b - Expositionsende bzw. Schichtende, c - Bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten
Regulatory reference	TRGS 910
Greece - Occupational Exposure Limits	
Local name	Τριχλωροαιθυλένιο
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	Δέρμα (Είναι πιθανή η σημαντική αύξηση της συνολικής επιβάρυνσης του λόγω δερνατικής έκθεσης)
Regulatory reference	Π.Δ. 26/2020 - Σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία
Hungary - Occupational Exposure Limits	
Local name	TRIKLÓRETILÉN
AK (OEL TWA)	54,7 mg/m³
CK (OEL STEL)	164,1 mg/m³
Remark	k(1B) (rákkeltő), b (Bőrön át is felszívódik), sz (Túlérzékenységet okozó (szenzibilizáló) tulajdonságú anyag. Az anyagra érzékeny egyéneken „túlérzékenységen” alapuló bőr-, légzőrendszeri, esetleg más szervet/szervrendszert károsító megbetegedést okozhat), BEM (biológiai expozíciós mutató); EU6 (2019/130 EU irányelvben közölt érték); R (Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről

Trichloroethene Neat (79-01-6)	
Hungary - Biological Exposure Indices	
Local name	Triklóretilén
BEI	20 mg/l Biológiai expozíciós (hatás) mutató: triklórecetsav - Biológiai minta: vizeletben - Mintavétel ideje: mhv., m.v. (munkahét végén, műszak végén) 122 µmol/l Biológiai expozíciós (hatás) mutató: triklórecetsav - Biológiai minta: vizeletben - Mintavétel ideje: mhv., m.v. (munkahét végén, műszak végén)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Trichloroethylene
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	BOELV (Binding Occupational Exposure Limit Values), Skin (Substances which have the capacity to penetrate intact skin when they come in contact with it and be absorbed into the body. A substantial contribution to the total body burden via dermal exposure is possible), Carc.1B (Substances presumed to have carcinogenic potential for humans)
Regulatory reference	Chemical Agents Code of Practice 2024
Ireland - Biological limit values	
Local name	Trichloroethylene
BMGV	20 mg/l Parameter: TCA - Medium: urine - Sampling time: By the end of the last shift of a workweek/shift period
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
Italy - Occupational Exposure Limits	
Local name	Tricloroetilene
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	Cute
Regulatory reference	Allegato XLIII del Decreto Legislativo 4 settembre 2024, n. 135 - Protezione da agenti cancerogeni, mutageni o da sostanze tossiche per la riproduzione
Lithuania - Occupational Exposure Limits	
Local name	Trichloretilenas
IPRV (OEL TWA)	50 mg/m³
	10 ppm
TPRV (OEL STEL)	140 mg/m³
	25 ppm
Remark	M (mutageninis poveikis); K (kancerogeninis poveikis); Trichloretilene gali būti specialių stabilizuojančių agentų, kurių koncentracija nedidelė, pvz., epichlorhidrino. Kai kuriose šalyse šios cheminės medžiagos naudojimas uždraustas.
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)

Trichloroethene Neat (79-01-6)	
Luxembourg - Occupational Exposure Limits	
Local name	Trichloroéthylène
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	Peau
Regulatory reference	Mémorial A Nº 223 de 2021 concernant la protection des salariés contre les risques liés à l'exposition à des agents cancérigènes ou mutagènes au travail
Malta - Occupational Exposure Limits	
Local name	Trichloroethylene # Trikloroetilene
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	Skin # Ġilda
Regulatory reference	S.L. 424.22 - Exposure to Carcinogens, Mutagens or Reprotoxic Substances at Work Regulations (L.N. 102 of 2024) # L.S. 424.22 - Regolamenti dwar Espożizzjoni għall-Carcinogens, Mutagens jew Reprotoxic Substances fuq il-Post tax-Xogħol (A.L. 102 tal-2024)
Netherlands - Occupational Exposure Limits	
Local name	Trichloorethyleen
TGG-8u (OEL TWA)	54,7 mg/m³
	10 ppm
TGG-15min (OEL STEL)	164,1 mg/m³
	30 ppm
Remark	Kankerverwekkende stof. H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een H-aanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Regulatory reference	Arbeidsomstandighedenregeling 2024
Poland - Occupational Exposure Limits	
Local name	Trichloroeten
NDS (OEL TWA)	50 mg/m³
NDSCh (OEL STEL)	100 mg/m³
Remark	Skóra (Oznakowanie substancji notacją „skóra" oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Tricloroetileno
OEL TWA	10 ppm

Trichloroethene Neat (79-01-6)	
OEL STEL	25 ppm
Remark	A2 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem); IBE (Índice biológico de exposição)
Regulatory reference	Norma Portuguesa NP 1796:2014
Portugal - Biological Exposure Indices	
Local name	Tricloroetileno
BEI	15 mg/l Parâmetro: Ácido tricloroacético - Meio: urina - Momento da amostragem: Fim do turno no fim da semana de trabalho - Notaçao: Ne (Não específico) 0,5 mg/l Parâmetro: Tricloroetanol - Meio: sangue - Momento da amostragem: Fim do turno no fim da semana de trabalho - Notaçao: Ne (Não específico), Sem hidrólise Parâmetro: Tricloetileno - Meio: sangue - Momento da amostragem: Fim do turno no fim da semana de trabalho - Notaçao: Sq (Semi quantitativo) Parâmetro: Tricloroetileno - Meio: fração final do ar exalado - Momento da amostragem: Fim do turno no fim da semana de trabalho - Notaçao: Sq (Semi quantitativo)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Tricloretilenă
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	P - posibilitatea unei penetrări cutanate importante; C1B - poate provoca apariția cancerului; M2 - susceptibil de a provoca anomalii genetice
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Slovakia - Occupational Exposure Limits	
Local name	Trichlóretén (trichlóretylén)
NPHV (OEL TWA)	54,7 mg/m³
	10 ppm
NPHV (OEL STEL)	164,1 mg/m³
	30 ppm
Remark	Kategória karcinogénnych faktorov 1B – Pravdepodobný karcinogén; Kategória mutagénnych faktorov 2 – Podozrivý mutagén; K – prienik cez kožu: K celkovému zaťaženiu organizmu môže významne prispieť expozícia cez kožu.
Regulatory reference	Nariadenie vlády č. 356/2006 Z. z. (121/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	trikloroetilen (trikloroeten)
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	1080 mg/m³
	200 ppm

Trichloroethene Neat (79-01-6)	
Remark	Rakotvorne snovi – kategorija 1B, Mutagene snovi za zarodne celice – kategorija 2. EU, K (Lastnost lažjega prehajanja snovi v organizem skozi kožo), BAT (Biološka mejna vrednost), EKA (Zveza med koncentracijo rakotvornih snovi v zraku na delovnem mestu in količino snovi in/ali njenih metabolitov v organizmu), Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti)
Regulatory reference	Uradni list RS, št. 29/2024 z dne 4.4.2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim ali mutagenim snovem
Slovenia - Biological limit values	
Local name	trikloroetilen
BLV	22 mg/l Parameter: trikloroocetna kislina - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmene, pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih
Regulatory reference	Uradni list RS, št. 29/2024 z dne 4.4.2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim ali mutagenim snovem
Spain - Occupational Exposure Limits	
Local name	Tricloroetileno
VLA-ED (OEL TWA)	54,7 mg/m³
	10 ppm
VLA-EC (OEL STEL)	164,1 mg/m³
	30 ppm
Remark	C1B (Supuesto carcinógeno para el hombre), VLB® (Agente químico que tiene Valor Límite Biológico), r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el “Reglamento (CE) nº 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos” (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Spain - Biological limit values	
Local name	Tricloroetileno
BLV	15 mg/l Parámetro: Ácido tricloroacético - Medio: Orina - Momento de muestreo: Final de la semana laboral - Notas: I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos) 0,5 mg/l Parámetro: Tricloroetanol - Medio: Sangre - Momento de muestreo: Final de la semana laboral - Notas: I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos), sin hidrólisis
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Sweden - Occupational Exposure Limits	
Local name	1,1,2-Trikloretylen
NGV (OEL TWA)	54 mg/m³
	10 ppm
KGV (OEL STEL)	140 mg/m³
	25 ppm

Trichloroethene Neat (79-01-6)	
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga); 13 (Ämnen som har tagits upp på bilaga XIV (tillstånd) till REACH och kräver tillstånd för att få användas och släppas ut på marknaden (1 dec 2017))
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Trichloroethylene
WEL TWA (OEL TWA)	550 mg/m³
	100 ppm
WEL STEL (OEL STEL)	820 mg/m³
	150 ppm
Remark	Carc (Capable of causing cancer and/or heritable genetic damage), Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Tríklóretýlen (tríklóreten)
OEL TWA	54,7 mg/m³
	10 ppm
OEL STEL	164,1 mg/m³
	30 ppm
Remark	H (efnið getur auðveldlega borist inn í líkamann gegnum húð), K (efnið er krabbameinsvaldandi)
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 1137/2020)
Norway - Occupational Exposure Limits	
Local name	Trikloreten (Trikloretylen)
Grenseverdi (OEL TWA)	33 mg/m³
	6 ppm
Korttidsverdi (OEL STEL)	164 mg/m³
	30 ppm
Remark	H: Kjemikalier som kan tas opp gjennom huden; K: Kjemikalier som skal betraktes som kreftfremkallende; G: EU har fastsatt en bindende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	трихлоретилен (трихлоретен)
OEL TWA	270 mg/m³
	50 ppm
KTV	4

Trichloroethene Neat (79-01-6)	
Short time value [mg/m³]	1080 mg/m³
Short time value [ppm]	200 ppm
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанци во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m3 или во ml/m3(ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (Y); (BAT) биолошка гранична вредност – праг на биолошка гранична вредност, што значи предупредување на опасна хемиска супстанца и нејзини метаболити во ткивата, телесните течности или издишувањето на воздухот, без оглед на тоа, дали опасната хемиска супстанца е внесена во организмот со вдишување, голтање или преку кожата
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанци („Службен весник на Република Македонија” бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	Trichloroéthylène / Trichlorethen [Trichlorethylen]
MAK (OEL TWA)	110 mg/m³
	20 ppm
KZGW (OEL STEL)	273 mg/m³
	50 ppm
Notation	R, C1$^{\#}_{B}$, M2, B / H, C1$^{\#}_{B}$, M2, B
Remark	INRS, HSE, NIOSH. Pas de risque accru de cancer si la VME est respectée. Cancer de rein est TC pour VME, SNC est TC pour VLE. / INRS, HSE, NIOSH. Kein erhöhtes Krebsrisiko bei Einhalten des MAK-Werts. Nierenkrebs ist KT für MAK, ZNS ist KT für KZGW.
Regulatory reference	www.suva.ch, 01.01.2024
Switzerland - BAT	
Local name	Trichloroéthylène / Trichlorethen
BAT	40 mg/l (245 µmol/l; Paramètre biologique: Acide trichloroacétique; Substrat d’examen: Urine; Moment du prélèvement: Fin de l’exposition, de la période de travail. Exposition de longue durée: après plusieurs périodes de travail.) / (245 µmol/l; Biologischer Parameter: Trichloressigsäure; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende. Bei Langzeitexposition: nach mehreren vorangegangenen Schichten.)
Remark	Cancérogène avec valeur seuil. Paramètre non spécifique. / Kanzerogen mit Schwellenwert. Nicht spezifischer Parameter.
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte
USA - ACGIH - Occupational Exposure Limits	
Local name	Trichloroethylene
ACGIH OEL TWA	10 ppm
ACGIH OEL STEL	25 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; cognitive decrements; renal toxicity. Notations: A2 (Suspected Human Carcinogen); BEI

Trichloroethene Neat (79-01-6)	
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	Trichloroethylene
BEI	15 mg/l Parameter: Trichloroacetic acid - Medium: urine - Sampling time: End of shift at end of workweek - Notations: Ns 0,5 mg/l Parameter: Trichloroethanol (without hydrolysis) - Medium: blood - Sampling time: End of shift at end of workweek - Notations: Ns Parameter: Trichloroethylene - Medium: blood - Sampling time: End of shift at end of workweek - Notations: Sq Parameter: Trichloroethylene - Medium: end-exhaled air - Sampling time: End of shift at end of workweek - Notations: Sq
Regulatory reference	ACGIH 2024

DNEL and PNEC

Trichloroethene Neat (79-01-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	164,1 mg/m³
Long-term - systemic effects, dermal	7,8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	54,7 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	82 mg/m³
Acute - local effects, inhalation	82 mg/m³
Long-term - systemic effects,oral	0,9 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	13,7 mg/m³
Long-term - systemic effects, dermal	4,6 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,576 mg/l
PNEC aqua (marine water)	0,0115 mg/l
PNEC aqua (intermittent, freshwater)	0,17 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	10,2 mg/kg dwt
PNEC sediment (marine water)	0,204 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,7 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	13,83 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	2,6 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. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

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	:	Liquid
Colour	:	Colourless.
Appearance	:	Liquid.
Molecular mass	:	131,39 g/mol
Odour	:	Medicinal odour. Ether-like odour.
Odour threshold	:	82 – 110 ppm
Melting point	:	Not applicable
Freezing point	:	-87 °C
Boiling point	:	87 °C
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	89,6 °C
Auto-ignition temperature	:	410 °C
Decomposition temperature	:	> 120 °C
pH	:	6,7 – 7,5
Viscosity, kinematic	:	0,41 mm²/s
Viscosity, dynamic	:	0,001 Pa·s (20 °C)
Solubility	:	Poorly soluble in water. Substance sinks in water. Soluble in ethanol. Soluble in methanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in toluene. Soluble in xylene. Soluble in nitrobenzene. Soluble in carbondisulfide. Soluble in aniline. Soluble in pyridine. Soluble in acetic acid. Soluble in oil. Water: 0,1 g/100ml Ethanol: Completely miscible Ether: Completely miscible
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	2,29 – 2,42
Vapour pressure	:	77 hPa (20 °C)
Vapour pressure at 50°C	:	290 hPa (50 °C)

Critical pressure	:	49850 hPa
Saturation concentration	:	415 g/m³
Density	:	1464 kg/m³
Relative density	:	1,5
Relative vapour density at 20°C	:	4,5
Relative density of saturated gas/air mixture	:	1,34
Particle characteristics	:	Not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosion limits	:	7,9 – 10 vol %
Critical temperature	:	271 °C

Other safety characteristics

Relative evaporation rate (butylacetate=1)	:	> 3
Relative evaporation rate (ether=1)	:	3,8
Specific conductivity	:	800 pS/m
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C,clear,Volatile,Electrostatic charges may be generated during handling

SECTION 10: Stability and reactivity

10.1. Reactivity

Unstabilized product decomposes slowly on exposure to air: release of toxic and corrosive gases/vapours e.g.: hydrogen chloride. This reaction is accelerated on exposure to water and heat and on exposure to UV light. On exposure to water (moisture): release of corrosive products e.g.: hydrogen chloride. Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapours (chlorine, phosgene, hydrogen chloride, carbon monoxide - carbon dioxide). Reacts on exposure to temperature rise with (some) metals: release of (highly) toxic gases/vapours (phosgene). Reacts violently with many compounds e.g.: with (strong) oxidizers, with (strong) reducers and with (some) metal powders with (increased) risk of fire/explosion. Violent to explosive reaction with (some) bases: release of spontaneously flammable compounds (dichloroacetylene).

10.2. Chemical stability

Unstable on exposure to heat. Unstable on exposure to moisture.

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

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

Trichloroethene Neat (79-01-6)	
LD50 oral rat	4920 mg/kg

Trichloroethene Neat (79-01-6)	
LD50 dermal rabbit	> 20000 mg/kg
LC50 Inhalation - Rat	66 mg/l/4h
LC50 Inhalation - Rat [ppm]	12000 ppm/4h

Skin corrosion/irritation : Causes skin irritation.
pH: 6,7 – 7,5

Serious eye damage/irritation : Causes serious eye irritation.
pH: 6,7 – 7,5

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : May cause cancer.

Trichloroethene Neat (79-01-6)	
NOAEL (chronic, oral, animal/male, 2 years)	1000 mg/kg bodyweight mouse
NOAEL (chronic, oral, animal/female, 2 years)	1000 mg/kg bodyweight mouse
IARC group	2A - Probably carcinogenic to humans

Reproductive toxicity : Not classified

STOT-single exposure : May cause drowsiness or dizziness.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Trichloroethene Neat (79-01-6)	
NOAEL (oral, rat, 90 days)	50 mg/kg bodyweight

Aspiration hazard : Not classified

Trichloroethene Neat (79-01-6)	
Viscosity, kinematic	0,41 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

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

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Germany : TA-Luft Klasse 5.2.7.1.1/III.

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

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

Trichloroethene Neat (79-01-6)	
LC50 - Fish [1]	28,3 mg/l Jordanella floridae
EC50 - Crustacea [1]	20,8 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	36,5 mg/l Chlamydomonas reinhardtii
LOEC (chronic)	12 mg/l Ceriodaphnia dubia
NOEC (chronic)	7,1 mg/l Ceriodaphnia dubia
NOEC chronic fish	5,76 mg/l Jordanella floridae

12.2. Persistence and degradability

Trichloroethene Neat (79-01-6)	
Persistence and degradability	Not readily biodegradable in water. Not degradable in the soil. Biodegradable in soil in anaerobic condition.

12.3. Bioaccumulative potential

Trichloroethene Neat (79-01-6)	
Partition coefficient n-octanol/water (Log Pow)	2,29 – 2,42
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).

12.4. Mobility in soil

Trichloroethene Neat (79-01-6)	
Surface tension	0,03 N/m

12.5. Results of PBT and vPvB assessment

Trichloroethene Neat (79-01-6)
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

12.6. Endocrine disrupting properties

No additional information available

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 : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

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

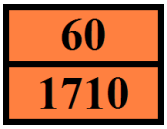
ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1710	UN 1710	UN 1710	UN 1710	UN 1710
14.2. UN proper shipping name				
TRICHLOROETHYLENE	TRICHLOROETHYLENE	Trichloroethylene	TRICHLOROETHYLENE	TRICHLOROETHYLENE
Transport document description				
UN 1710 TRICHLOROETHYLENE, 6.1, III, (E)	UN 1710 TRICHLOROETHYLENE, 6.1, III	UN 1710 Trichloroethylene, 6.1, III	UN 1710 TRICHLOROETHYLENE, 6.1, III	UN 1710 TRICHLOROETHYLENE, 6.1, III

ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-A EmS-No. (Spillage): S-A	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : T1
Limited quantities (ADR) : 5l
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P001, IBC03, LP01, R001
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T4
Portable tank and bulk container special provisions (ADR) : TP1
Tank code (ADR) : L4BH
Tank special provisions (ADR) : TU15, TE19
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Special provisions for carriage - Packages (ADR) : V12
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
Special provisions for carriage - Operation (ADR) : S9
Hazard identification number (Kemler No.) : 60
Orange plates :



Tunnel restriction code (ADR) : E
EAC code : 2Z

Transport by sea

Transport regulations (IMDG) : Subject to the provisions
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Colourless liquid with a chloroform-like odour. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.

Air transport

Transport regulations (IATA) : Subject to the provisions

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y642
PCA limited quantity max net quantity (IATA)	:	2L
PCA packing instructions (IATA)	:	655
PCA max net quantity (IATA)	:	60L
CAO packing instructions (IATA)	:	663
CAO max net quantity (IATA)	:	220L
ERG code (IATA)	:	6A

Inland waterway transport

Classification code (ADN)	:	T1
Special provisions (ADN)	:	802
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP, TOX, A
Ventilation (ADN)	:	VE02
Number of blue cones/lights (ADN)	:	0

Rail transport

Transport regulations (RID)	:	Subject to the provisions
Classification code (RID)	:	T1
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1
Tank codes for RID tanks (RID)	:	L4BH
Special provisions for RID tanks (RID)	:	TU15
Transport category (RID)	:	2
Special provisions for carriage – Packages (RID)	:	W12
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28, CW31
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	60

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)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	Trichloroethene Neat	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Trichloroethene Neat	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

REACH Annex XIV (Authorisation List)

Listed on REACH Annex XIV (Authorisation List): Trichloroethylene

REACH Candidate List (SVHC)

Listed on the REACH Candidate List: Trichloroethylene

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.

VOC Directive (2004/42)

Organic solvent : Yes
VOC content : 100 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313
Listed on the Canadian DSL (Domestic Substances List)

France

Occupational diseases	
Code	Description
RG 12	Occupational diseases caused by the halogenated aliphatic hydrocarbons listed below: dichloromethane; trichloromethane; tribromomethane; triiodomethane; tetrabromomethane; chloroethane; 1,1-dichloroethane; 1,2-dichloroethane; 1,2-dibromoethane; 1,1,1-trichloroethane; 2-bromopropane; 1,2-dichloropropane; trichlorethylene; tetrachlorethylene; dichloroacetylene; trichlorofluoromethane; 1,1,2,2-tetrachloro-1,2-difluoroethane; 1,1,1-trichloro-2,2,2-trifluoroethane; 1,1-dichloro-2,2,2-trifluoroethane; 1,2-dichloro-1,1-difluoroethane; 1,1-dichloro-1-fluoroethane
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide
RG 101	Cancerous conditions caused by trichloroethylene

Germany

VOC ordinance (ChemVOCFarbV) : VOC content : 100 %

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV; ID No. 199).
WGK remark : Classification in compliance with Verwaltungsvorschriftwassergefährdender Stoffe (VwVwS) of 27 July 2005.
Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).
Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

Air Quality Control (TA Luft)					
Category	Class	Applicable on	Local name	Max. mass flow	Max. mass concentration
5.2.5	Class I	Trichloroethene Neat	Trichlorethen	100 g/h	20 mg/m³
5.2.7.1.1	Class III	Trichloroethene Neat	Trichlorethen	2,5 g/h	1 mg/m³

Netherlands

ABM category : Z(2) - biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/reprotoxicity/bioacumulative potential or toxicity)
SZW-lijst van kankerverwekkende stoffen : trichloroethylene is 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 : trichloroethylene is listed

Denmark

Class for fire hazard : Class III-1
Store unit : 50 liter
Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

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)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	**Modified**
4.1	First-aid measures for first aider	**Added**
4.2	Symptoms/effects after ingestion	**Added**
4.2	Symptoms/effects after inhalation	**Added**
5.1	Unsuitable extinguishing media	**Added**
5.2	Fire hazard	**Added**
5.2	Explosion hazard	**Added**
5.3	Firefighting instructions	**Added**
6.1	Emergency procedures	**Added**
6.1	Protective equipment	**Added**
6.1	General measures	**Added**
6.3	For containment	**Added**
7.1	Additional hazards when processed	**Added**
7.2	Packaging materials	**Added**
7.2	Technical measures	**Added**
7.2	Storage conditions	**Modified**
8	NPHV (OEL STEL) [ppm]	**Modified**
8	NPHV (OEL STEL)	**Modified**
8	Regulatory reference	**Modified**
8	Remark	**Modified**
8	NPHV (OEL TWA) [2]	**Modified**
8	NPHV (OEL TWA) [1]	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	BLV	**Modified**
8	BLV	**Modified**
8	Regulatory reference	**Modified**
8	Remark	**Removed**
8	BLV	**Removed**
8	Regulatory reference	**Removed**
8	Local name	**Removed**
8	BEI	**Modified**
8	Remark	**Modified**
8	Remark	**Modified**

Indication of changes		
Section	**Changed item**	**Comments**
8	Remark	**Modified**
8	OEL STEL	**Removed**
8	OEL STEL	**Removed**
8	OEL TWA	**Removed**
8	Regulatory reference	**Modified**
8	Remark	**Modified**
8	Remark	**Removed**
8	HTP (OEL STEL)	**Removed**
8	HTP (OEL STEL)	**Removed**
8	Regulatory reference	**Modified**
8	Local name	**Modified**
8	Regulatory reference	**Modified**
8	Remark	**Modified**
8	Regulatory reference	**Modified**
8	Critical toxicity	**Removed**
8	Regulatory reference	**Modified**
8	BEI	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Removed**
8	OEL TWA	**Removed**
8	Local name	**Removed**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Remark	**Modified**
8	Regulatory reference	**Modified**
8	HTP (OEL TWA) [2]	**Removed**
8	HTP (OEL TWA) [1]	**Removed**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**
8	NPK-P (OEL C)	**Modified**
8	PEL (OEL TWA)	**Modified**
8	Regulatory reference	**Modified**
8	Regulatory reference	**Modified**

Indication of changes		
Section	**Changed item**	**Comments**
13.1	Product/Packaging disposal recommendations	**Added**
13.1	Sewage disposal recommendations	**Added**
13.1	Additional information	**Added**
13.1	Regional waste regulation	**Added**
16	Abbreviations and acronyms	**Modified**

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration

Abbreviations and acronyms:	
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. Not classified	Flammable liquids Not classified
Muta. 2	Germ cell mutagenicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

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.