

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 14.05.2022
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SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifiers

Product name 2-Chlorotoluene
Product Number PSR39605
Brand PureSynth research chemicals
CAS No. 95-49-8

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company PureSynth Research Chemicals GmbH
64683 Einhausen Marie-Curie-StraBe. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

	smoking.
P233	Keep container tightly closed.
P273	Avoid release to the environment.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none

2.3 Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
1-chloro-2-methylbenzene	C ₇ H ₇ Cl	95-49-8
Component	Classification	Concentration
2-chlorotoluene	M-Factor (Acute aquatic toxicity): 1Acute toxicity estimate Acute inhalation toxicity (vapour): 11.1 mg/l	>= 90 - <= 100

SECTION 4: First aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

Carbon oxides

Hydrogen chloride gas

Advice for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling :

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion :

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures :

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Specific end use(s)

Storage class (TRGS 510) : 3, Flammable liquids

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	Ingredients with workplace control parameters
Exposure controls	
Appropriate engineering controls	No data available
Personal protective equipment:	
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Hand protection	<p>Material: Viton[®]</p> <p>Break through time: 480 min</p> <p>Glove thickness: 0.7 mm</p> <p>Protective index: Full contact</p> <p>Material: butyl-rubber</p> <p>Break through time: 30 min</p> <p>Glove thickness: 0.7 mm</p> <p>Protective index: Splash contact</p>
Skin and Body Protection	<p>Remarks: This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet: www.kcl.de).</p> <p>Flame retardant antistatic protective clothing.</p>
Respiratory protection	<p>required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.</p> <p>Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds</p> <p>The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.</p>
Control of environmental exposure	Do not let product enter drains.

SECTION 9: Physical and chemical properties

Appearance	Form: liquid Colour: colourless
Odour	aromatic
pH - Value	No data available
Density	1.083 g/cm ³ (25 °C) Method: lit.
Boiling Point	157 - 159 °C Method: lit.
Melting Point	-36 °C Method: lit
Solubility in water	0.047 g/l (20 °C)
Flash point	43 °C Method: c.c., closed cup
Vapour pressure	3.5 hPa (20 °C)
Auto -ignition temperature	> 500 °C
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	log Pow: 3.5 (External MSDS) Bioaccumulation is not expected.
Viscosity	Viscosity, dynamic: 1.02 mPa.s (20 °C) Viscosity, kinematic: No data available
Explosive properties	No data available
Upper / lower flammability or explosive limits	Upper explosion limit 12.6 %(V) Lower explosion limit 1.0 %(V)
Oxidizing properties	none

Other safety information: No data available

SECTION 10: Stability and reactivity

Reactivity	Vapour/air-mixtures are explosive at intense warming.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions	Violent reactions possible with: Alkali metals Oxidizing agents dimethyl sulfoxide
Condition to avoid	Heating.
Incompatible materials	rubber
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - male - 3227 mg/kg Remarks: (ECHA) Acute toxicity estimate Inhalation – 11.1 mg/l - vapour (Expert judgement) Dermal: No data available
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
Respiratory or skin sensitization	Maximisation Test - Guinea pig Result: negative (OECD Test Guideline 406)
Germ cell mutagenicity	Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA) Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA)
Carcinogenicity	No data available
Reproductive toxicity	Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: XS9000000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Kidney –

SECTION 12: Ecological information.

Toxicity

Toxicity to fish	LC50 (Oryzias latipes (Orange-red killifish)): 7.7 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 0.7 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	ErC50 (Pseudokirchneriella subcapitata (green algae)): 8.44 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes EC10 (Pseudokirchneriella subcapitata (green algae)): 6.09 mg/l Exposure time: 72 h

	Method: OECD Test Guideline 201
	GLP: yes
M-Factor (Acute aquatic toxicity)	1
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	NOEC: 0.313 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Analytical monitoring: yes
Persistence and degradability	Method: OECD Test Guideline 211 Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d
Bioaccumulation	Method: OECD Test Guideline 301C Bioaccumulation: Species: Cyprinus carpio (Carp) Exposure time: 56 d Concentration: 0.45 mg/l Bioconcentration factor (BCF): 41.6 - 87.2 Method: OECD Test Guideline 305C Partition coefficient: n-octanol/water: log Pow: 3.5 Remarks: (External MSDS) Bioaccumulation is not expected.
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other adverse effects	Additional ecological information: Can contribute to the AOX value of wastewater. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Waste treatment methods	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.
Contaminated packaging	No data available.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	2238	CHLOROTOLUENES	3	III	no
IMDG	2238	CHLOROTOLUENES	3	III	no
IATA	2238	Chlorotoluenes	3	III	no

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 40
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E1 ENVIRONMENTAL HAZARDS P5c FLAMMABLE LIQUIDS

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.