

Toluene, HPLC grade Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Date of issue: 10/31/2018 Version: 1.0

	ance/mixture and of the company/undertaking
1.1. Product identifier Product form	: Substance
Trade name	: Toluene, HPLC grade
EC Index-No.	: 601-021-00-3
EC-No.	: 203-625-9
CAS-No.	: 108-88-3
REACH registration No	: 01-2119471310-51
Product code	: CL00.2028
Type of product	: Pure substance
Formula	: C7H8
Synonyms	: ANTISAL 1A / benzene, methyl- / benzyl hydride / CASWELL no 859 / CP 25 / formula No 06500 / methacide / methane, phenyl- / methylbenzene / phenylmethane / reference fuel, toluene / retinaphtha / solvent toluene / solvesso toluene / tol / toluene / toluene chromasolv / toluene pestanal / toluene regen / toluene spectranal / toluene, nitration grade / toluene, pure / toluene, reference fuel / tolunol / toluol oil / toluole / tolu-sol
1.2. Relevant identified uses of the substar	nce or mixture and uses advised against
1.2.1. Relevant identified uses	
Use of the substance/mixture	: Laboratory chemical
1.2.2. Uses advised against	
No additional information available	
1.3. Details of the supplier of the safety dat Chem-Lab nv Industriezone "De Arend" 2 Zedelgem - Belgium T +32 50 288320 info@chem-lab.be - www.chem-lab.be	ta sheet
1.4. Emergency telephone number	
Emergency number :	+32 50 28 83 20
SECTION 2: Hazards identification	
2.1. Classification of the substance or mixt	ure
Classification according to Regulation (EC) No.	1272/2008 [CLP]
Flammable liquids, Category 2	H225
Reproductive toxicity, Category 2	H361d
Aspiration hazard, Category 1	H304
Specific target organ toxicity — Repeated exposure	
Skin corrosion/irritation, Category 2	H315
Specific target organ toxicity — Single exposure, Ca	
Full text of H statements : see section 16	
Adverse physicochemical, human health and en	vironmental effects
No additional information available 2.2. Label elements	
Labelling according to Regulation (EC) No. 1272 Hazard pictograms (CLP)	
	GHS02 GHS08 GHS07
Signal word (CLP)	: Danger
Hazard statements (CLP)	<ul> <li>H225 - Highly flammable liquid and vapour.</li> <li>H361d - Suspected of damaging the unborn child.</li> <li>H304 - May be fatal if swallowed and enters airways.</li> <li>H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure (if inhaled).</li> <li>H315 - Causes skin irritation.</li> </ul>
	H226 May applied drawalingen er dizzingen

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Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	P331 - Do NOT induce vomiting. P302+P352 - IF ON SKIN: Wash with plenty of water/

### 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

# **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]
Toluene, HPLC grade	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (EC Index-No.) 601-021-00-3 (REACH-no) 01-2119471310-51	100	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336

### Full text of H-statements: see section 16

3.2. Mixtures Not applicable

SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.
First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Take victim to a doctor if irritation persists. Take victim to a doctor/medical service if irritation persists.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Take victim to a doctor/medical service if irritation persists.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not give milk/oil to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.
4.2. Most important symptoms and effects,	both acute and delayed
Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness.
Symptoms/effects after skin contact	: Tingling/irritation of the skin. Red skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue.
Symptoms/effects after ingestion	: Risk of aspiration pneumonia. Nausea. Abdominal pain. Irritation of the gastric/intestinal mucosa. Symptoms similar to those listed under inhalation.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Impairment of the nervous system. Tremor. Impaired memory. Impaired concentration. Brain affection. Disturbances of heart rate. Change in the haemogramme/blood composition.
4.3. Indication of any immediate medical at	tention and special treatment needed

No additional information available

SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (not alcohol-resistant).

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Unsuitable extinguishing media	: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.
5.2. Special hazards arising from the substa	ance or mixture
Fire hazard	: DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: Upon combustion: CO and CO2 are formed.
5.3. Advice for firefighters	
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus.
SECTION 6: Accidental release measur	<b>'</b> AS
6.1. Personal precautions, protective equip	
6.1.1. For non-emergency personnel	
Protective equipment	: Gloves. Protective goggles. Head/neck protection. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit.
Emergency procedures	: Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames

## 6.1.2. For emergency responders

nd cleaning up
: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
: Liquid spill: cover with foam. Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

No additional information available

Precautions for safe handling: Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed.Hygiene measures: Observe strict hygiene. <b>7.2. Conditions for safe storage, including any incompatibilities</b> Heat and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens.Storage area: Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.Special rules on packaging: SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.Packaging materials: SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel. polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene.	SECTION 7: Handling and storage	
electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed.Hygiene measures: Observe strict hygiene. <b>7.2. Conditions for safe storage, including any incompatibilities</b> Heat and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens.Storage area: Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.Special rules on packaging: SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.Packaging materials: SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel. polypropylene. glass. tin. MATERIAL: TO AVOID: polyethylene. <b>7.3. Specific end use(s)</b>	7.1. Precautions for safe handling	
7.2. Conditions for safe storage, including any incompatibilities         Heat and ignition sources       : KEEP SUBSTANCE AWAY FROM: heat sources, ignition sources.         Information on mixed storage       : KEEP SUBSTANCE AWAY FROM: oxidizing agents, (strong) acids, halogens.         Storage area       : Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.         Special rules on packaging       : SPECIAL REQUIREMENTS: closing, clean, correctly labelled, meet the legal requirements. Secure fragile packagings in solid containers.         Packaging materials       : SUITABLE MATERIAL: metal, stainless steel, carbon steel, aluminium, nickel, polypropylene, glass, tin. MATERIAL TO AVOID: polyethylene.         7.3. Specific end use(s)       Specific end use(s)	Precautions for safe handling	electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the
Heat and ignition sources       : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.         Information on mixed storage       : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens.         Storage area       : Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.         Special rules on packaging       : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.         Packaging materials       : SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel. polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene.         7.3. Specific end use(s)       :	Hygiene measures	: Observe strict hygiene.
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requirements. Secure fragile packagings in solid containers.         Packaging materials       : SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel. polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene.         7.3. Specific end use(s)	Storage area	tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out
polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene. 7.3. Specific end use(s)	Special rules on packaging	а , а а
	Packaging materials	
No additional information available	7.3. Specific end use(s)	

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SECTION 8: Exposure controls/personal protection			
8.1. Control parameters Toluene, HPLC grade (108			
EU	IOELV TWA (mg	/m <sup>3</sup> )	192 mg/m <sup>3</sup>
EU	IOELV TWA (Ing		50 ppm
EU	IOELV TWA (pp)		384 mg/m <sup>3</sup>
EU	IOELV STEL (pp	· · · · · · · · · · · · · · · · · · ·	100 ppm
Belgium	Limit value (mg/n		77 mg/m <sup>3</sup>
Belgium	Limit value (ppm)		20 ppm
Belgium	Short time value		384 mg/m <sup>3</sup>
Belgium -	Short time value	(ppm)	100 ppm
France	VME (mg/m <sup>3</sup> )		76.8 mg/m <sup>3</sup>
France	VME (ppm)		20 ppm
France	VLE (mg/m <sup>3</sup> )		384 mg/m <sup>3</sup>
France	VLE (ppm)		100 ppm
Netherlands	Grenswaarde TG	iG 8H (mg/m³)	150 mg/m³
Netherlands	Grenswaarde TG		39 ppm
Netherlands	Grenswaarde TG	iG 15MIN (mg/m³)	384 mg/m <sup>3</sup>
Netherlands	Grenswaarde TG	iG 15MIN (ppm)	100 ppm
United Kingdom	WEL TWA (mg/n	l <sup>3</sup> )	191 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)		50 ppm
United Kingdom	WEL STEL (mg/r	n³)	384 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm	)	100 ppm
USA - ACGIH	ACGIH TWA (pp	m)	20 ppm
Toluene, HPLC grade (108	-88-3)		
DNEL/DMEL (Workers)			
Acute - systemic effects, inhala	tion	384 mg/m <sup>3</sup>	
Acute - local effects, inhalation		384 mg/m <sup>3</sup>	
Long-term - systemic effects, d	ermal	384 mg/kg bw/day	
Long-term - systemic effects, in	halation	192 mg/m <sup>3</sup>	
Long-term - local effects, inhala	ation	192 mg/m <sup>3</sup>	
DNEL/DMEL (General popula	tion)		
Acute - systemic effects, inhala	tion	226 mg/m <sup>3</sup>	
Acute - local effects, inhalation		226 mg/m <sup>3</sup>	
Long-term - systemic effects,or	al	8.13 mg/kg bw/day	
Long-term - systemic effects, inhalation		56.5 mg/m <sup>3</sup>	
Long-term - systemic effects, dermal		226 mg/kg bw/day	
Long-term - local effects, inhalation		56.5 mg/m <sup>3</sup>	
PNEC (Water)			
PNEC aqua (freshwater)		0.68 mg/l	
PNEC aqua (marine water)		0.68 mg/l	
PNEC (Sediment)	PNEC (Sediment)		
		16.39 mg/kg dwt	
PNEC sediment (marine water)		16.39 mg/kg dwt	
PNEC (Soil)			
		2.89 mg/kg dwt	

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Toluene, HPLC grade (108-88-3)		
PNEC (STP)		
PNEC sewage treatment plant	13.61 mg/l	
8.2. Exposure controls		
Materials for protective clothing:		
	viton. PVA. GIVE LESS RESISTANCE: butyl rubber. natural rubber. neoprene. nitrile rubber. per/PVC. GIVE POOR RESISTANCE: chloroprene rubber	
Hand protection:		
Gloves		
Eye protection:		
Safety glasses		
Skin and body protection:		
Head/neck protection. Protective clothing		
Respiratory protection:		
Full face mask with filter type A at conc. in air > e.	xposure limit	

SECTION 9: Physical and chemical properties		
9.1. Information on basic physical and che		
Physical state	: Liquid	
Appearance	: Liquid.	
Molecular mass	: 92.14 g/mol	
Colour	: Colourless.	
Odour	: Aromatic odour.	
Odour threshold	: No data available	
pH	: No data available	
Relative evaporation rate (butylacetate=1)	: 2.24	
Melting point	: -95 °C (1013 hPa)	
Freezing point	: No data available	
Boiling point	: 110.6 °C (1013 hPa)	
Flash point	: 4.4 °C (Closed cup, 1013 hPa)	
Critical temperature	: 321 °C	
Auto-ignition temperature	: 480 °C (1013 hPa)	
Decomposition temperature	: No data available	
Flammability (solid, gas)	: No data available	
Vapour pressure	: 30.89 hPa (21.1 °C)	
Vapour pressure at 50 °C	: 109 hPa	
Critical pressure	: 41077 hPa	
Relative vapour density at 20 °C	: 3.1	
Relative density	: 0.87 (20 °C)	
Relative density of saturated gas/air mixture	: 1.6	
Density	: 870 kg/m³	
Solubility	: Insoluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in carbondisulfide. Soluble in acetic acid. Soluble in ethylacetate. Soluble in petroleum spirit.	
	Water: 0.057 - 0.059 g/100ml (25 °C)	
	Ethanol: complete	
	Ether: complete	
	Acetone: > 10 g/100ml	
Log Pow	: 2.73 (Experimental value, 20 °C)	
Viscosity, kinematic	: 0.69 mm²/s (20 °C)	
Viscosity, dynamic	: 0.6 mPa.s (20 °C)	
Explosive properties	: No data available	
Oxidising properties	: No data available	

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Lower explosive limit (LEL): 1.3 vol %Upper explosive limit (UEL): 7 vol %9.2. Other informationMinimum ignition energy: 0.3 mJSpecific conductivity: < 1 pS/m	Explosive limits	: 1.3 - 7 vol %
Upper explosive limit (UEL)       : 7 vol %         9.2. Other information         Minimum ignition energy       : 0.3 mJ         Specific conductivity       : < 1 pS/m		46 - 270 g/m³
9.2. Other information         Minimum ignition energy       : 0.3 mJ         Specific conductivity       : < 1 pS/m	Lower explosive limit (LEL)	: 1.3 vol %
Minimum ignition energy       : 0.3 mJ         Specific conductivity       : < 1 pS/m	Upper explosive limit (UEL)	: 7 vol %
Specific conductivity       : < 1 pS/m	9.2. Other information	
Saturation concentration       : 110 g/m³         VOC content       : 100 %         Other properties       : Gas/vapour heavier than air at 20°C. Clear. Volatile. Neutral reaction. May generate	Minimum ignition energy	: 0.3 mJ
VOC content       : 100 %         Other properties       : Gas/vapour heavier than air at 20°C. Clear. Volatile. Neutral reaction. May generate	Specific conductivity	: < 1 pS/m
Other properties : Gas/vapour heavier than air at 20°C. Clear. Volatile. Neutral reaction. May generate	Saturation concentration	: 110 g/m³
	VOC content	: 100 %
electiostatic charges.	Other properties	: Gas/vapour heavier than air at 20°C. Clear. Volatile. Neutral reaction. May generate electrostatic charges.

## SECTION 10: Stability and reactivity 10.1. Reactivity

Reacts violently with (some) halogens. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2. Chemical stability
Stable under normal conditions.
10.3. Possibility of hazardous reactions
No additional information available
10.4. Conditions to avoid
No additional information available
10.5. Incompatible materials
No additional information available
10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological informatic 11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Toluene, HPLC grade (108-88-3)	
LD50 oral rat	5580 mg/kg bodyweight (Equivalent or similar to EU Method B.1: Acute Toxicity (Oral), Rat, Male, Experimental value, Oral (one dose))
LD50 dermal rabbit	> 5000 mg/kg bodyweight (Other, 24 h, Rabbit, Male, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	25.7 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male, Experimental value, Inhalation (vapours))
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs (central nervous system) through prolonged or repeated exposure (if inhaled).
Aspiration hazard	: May be fatal if swallowed and enters airways.
Toluene, HPLC grade (108-88-3)	
Viscosity, kinematic	0.69 mm²/s (20 °C)
Potential adverse human health effects and symptoms	: May be fatal if swallowed and enters airways. Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Causes skin irritation. Non-toxic in contact with skin (LD50 skin> 5000 mg/kg). May cause drowsiness or dizziness. Non-toxic by inhalation (LC50 inh, rat > 20 mg/l/4h). Moderately irritant for eyes. Caution! Substance is absorbed through the skin.

SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

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Ecology - air	: Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014).
Ecology - all	Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Toxic to crustacea. Toxic to fishes. Groundwater pollutant. Fouling to shoreline. Inhibits photosynthesis of algae. Harmful to bacteria. Taste alteration in fishes/aquatic organisms
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified
Toluene, HPLC grade (108-88-3)	
LC50 fish 1	5.5 mg/l (96 h, Oncorhynchus kisutch, Flow-through system, Fresh water, Experimental value)
12.2. Persistence and degradability	
Toluene, HPLC grade (108-88-3)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.15 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.52 g O <sub>2</sub> /g substance
ThOD	3.13 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.69
12.3. Bioaccumulative potential	
Toluene, HPLC grade (108-88-3)	
BCF fish 1	90 (72 h, Leuciscus idus, Static system, Fresh water, Experimental value)
Log Pow	2.73 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
12.4. Mobility in soil	
Toluene, HPLC grade (108-88-3)	
Surface tension	27.73 N/m (25 °C)
Ecology - soil	Low potential for adsorption in soil.
12.5. Results of PBT and vPvB assessn	ient
Toluene, HPLC grade (108-88-3)	
This substance/mixture does not meet the PBT	criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPv	B criteria of REACH regulation, annex XIII
12.6. Other adverse effects	
No additional information available	

SECTION 13: Disposal considerations 13.1. Waste treatment methods : Do not discharge into drains or the environment. Remove waste in accordance with local Product/Packaging disposal recommendations and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Do not landfill. Incinerate under surveillance with energy recovery. May be discharged to company wastewater treatment plant. : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No Additional information 1357/2014 and Regulation (EU) No 2017/997. European List of Waste (LoW) code : 15 01 10\* - packaging containing residues of or contaminated by dangerous substances 07 01 04\* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information				
In accordance with ADR / RID	/ IMDG / IATA / ADN			
ADR	IMDG	ΙΑΤΑ	ADN	RID
14.1. UN number				
1294	1294	1294	1294	1294
14.2. UN proper shipping name				
Toluene	Toluene	Toluene	Toluene	Toluene

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Transport document descrip	otion	1		
UN 1294 Toluene, 3, II, (D/E)	UN 1294 Toluene, 3, II	UN 1294 Toluene, 3, II	UN 1294 Toluene, 3, II	UN 1294 Toluene, 3, I
14.3. Transport hazard cl	ass(es)	1	1	
3	3	3	3	3
				3
14.4. Packing group		1	1	I
II	I	II	II	II
14.5. Environmental haza	Irds	I		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information	available	·		
4.6. Special precautions	for user			
Overland transport				
ransport regulations (ADR)	: Su	bject to the provisions		
Classification code (ADR)	: F1			
lazard identification number (k	Kemler No.) : 33			
Drange plates		33 1294		
unnel restriction code (ADR)	: D/E	E		
AC code	: 3Y	E		
ransport by sea				
ransport regulations (IMDG)	: Su	bject to the provisions		
mS-No. (Fire)	: F-E	Ē		
mS-No. (Spillage)	: S-[	)		
Air transport				
ransport regulations (IATA)	: Su	bject to the provisions		
nland waterway transport				
Classification code (ADN)	: F1			
Carriage permitted (ADN)	: T			
Rail transport				
ransport regulations (RID)	· <u>Su</u>	bject to the provisions		

## SECTION 15: Regulatory information

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

## 15.1.1. EU-Regulations

No REACH Annex XVII restrictions Toluene, HPLC grade is not on the REACH Candidate List Toluene, HPLC grade is not on the REACH Annex XIV List

VOC content : 100 % Directive 2012/18/EU (SEVESO III)

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# 15.1.2. National regulations

Germany	
Reference to AwSV	: Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 194)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)
TA Luft	: 5.2.5 Organic Substances. Class I
Netherlands	
SZW-lijst van kankerverwekkende stoffen	: The substance is not listed
SZW-lijst van mutagene stoffen	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: toluene is listed
Denmark	
Class for fire hazard	: Class I-1
Store unit	: 1 liter
Classification remarks	: F <flam. 2="" liq.="">; Emergency management guidelines for the storage of flammable liquids must be followed</flam.>
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
	The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal
45.0 Observiced a state as a second set	

### 15.2. Chemical safety assessment No additional information available

## **SECTION 16: Other information**

Full text of H- and EUH-statements:		
Asp. Tox. 1	Aspiration hazard, Category 1	
Flam. Liq. 2	Flammable liquids, Category 2	
Repr. 2	Reproductive toxicity, Category 2	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2	
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis	
H225	Highly flammable liquid and vapour.	
H304	May be fatal if swallowed and enters airways.	
H315	Causes skin irritation.	
H336	May cause drowsiness or dizziness.	
H361d	Suspected of damaging the unborn child.	
H373	May cause damage to organs through prolonged or repeated exposure.	

SDS Zonder Big

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