SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 17-Apr-2024 **Revision Number** 1.01

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

1.1. Product identifier

Product Code(s)	DRE-A14072000TO-1000
Product Name	beta-HCH 1000 µg/mL in Toluene
Form	Not applicable
Unique Formula Identifier (UFI)	C7KA-40GS-300S-QMRP
Pure substance/mixture	Mixture

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

Recommended use	Laboratory use
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Supplier

LGC Limited
Queens Road
Teddington
Middlesex TW11 0LY
UNITED KINGDOM
:+44 (0) 20 8943 7000
Fax :+44 (0) 20 8943 2767
eMail : gb@lgcstandards.com

Web : www.lgcstandards.com

For further information, please contact

E-mail address sds-request@lgcgroup.com

1.4. Emergency telephone number

Emergency Telephone: For Hazardous Materials or Dangerous Goods Incident
Spill, Leak, Fire Exposure, or Accident
Call CHEMTREC:
USA & Canada 1-800-424-9300
Rest of the world +1 703-741-5970

Emergency Telephone - §45 - (EC)1272/2008	
Europe	**112**
Austria	No information available
Bulgaria	
Croatia	
Cyprus	
Czech Republic	
Denmark	
France	
Hungary	
Ireland	
Italy	
Lithuania	
Luxembourg	
Netherlands	
Norway	
Portugal	
Romania	
Slovakia	
Slovenia	
Spain	
Sweden	
Switzerland	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Aspiration hazard	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Reproductive toxicity	Category 2 - (H361)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Category 3 Narcotic effects	
Specific target organ toxicity — repeated exposure	Category 2 - (H373)
Flammable liquids	Category 2 - (H225)

2.2. Label elements

203-625-9
Contains Toluene

Signal word
Danger

Hazard statements
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
H225 - Highly flammable liquid and vapour

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P331 - Do NOT induce vomiting
P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish
P403 + P235 - Store in a well-ventilated place. Keep cool

2.3. Other hazards

No information available.

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB). This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT).

Endocrine Disruptor Information

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
Toluene	-	-
Beta-BHC/Beta-HCH	-	-

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Mixture of organic compounds.

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Toluene 108-88-3	80 - 100	-	203-625-9	Skin Irrit. 2 (H315) Repr. 2 (H361d) STOT SE 3 (H336) STOT RE 2 (H373) Asp. Tox. 1 (H304) Flam. Liq. 2 (H225)			
Beta-BHC/Beta-HCH 319-85-7	0.1 - 1	-	206-271-3	Acute Tox. 3 (H301) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Carc. 2 (H351) Lact. (H362) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)			

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

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Toluene 108-88-3	2600	12000	12.5	No data available	No data available
Beta-BHC/Beta-HCH 319-85-7	6000	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

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

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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

Note to doctors Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Use personal protection equipment. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash it before reuse. In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m³ *	TWA: 50 ppm TWA: 190 mg/m³ STEL 100 ppm STEL 380 mg/m³ Sk*	TWA: 20 ppm TWA: 77 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 192.0 mg/m³ STEL: 100 ppm STEL: 384.0 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*
Beta-BHC/Beta-HCH 319-85-7	-	TWA: 0.5 mg/m³ H*	-	-	-
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 200 mg/m³ Sk* Ceiling: 500 mg/m³	TWA: 25 ppm TWA: 94 mg/m³ STEL: 384 mg/m³ STEL: 100 ppm Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 25 ppm TWA: 81 mg/m³ STEL: 100 ppm STEL: 380 mg/m³ Sk*
Beta-BHC/Beta-HCH 319-85-7	-	-	TWA: 0.5 mg/m³ H*	TWA: 0.5 mg/m³	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Toluene 108-88-3	TWA: 20 ppm TWA: 76.8 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 190 mg/m³ Sk*	TWA: 50 ppm TWA: 190 mg/m³ Peak: 100 ppm Peak: 380 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 190 mg/m³ TWA: 50 ppm STEL: 384 mg/m³ STEL: 100 ppm Sk*
Beta-BHC/Beta-HCH 319-85-7	-	-	TWA: 0.1 mg/m³ Peak: 0.8 mg/m³ *	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Toluene 108-88-3	TWA: 192 mg/m³ TWA: 50 ppm STEL: 384 mg/m³ STEL: 100 ppm Sk*	TWA: 50 ppm TWA: 192 mg/m³ Sk*	TWA: 20 ppm TWA: 75.4 mg/m³	TWA: 14 ppm TWA: 50 mg/m³ STEL: 40 ppm STEL: 150 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*
Beta-BHC/Beta-HCH 319-85-7	TWA: 0.5 mg/m³ STEL: 1.5 mg/m³ Sk*	-	-	-	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m³	TWA: 50 ppm TWA: 192 mg/m³	TWA: 39 ppm TWA: 150 mg/m³	TWA: 25 ppm TWA: 94 mg/m³	TWA: 100 mg/m³ STEL: 200 mg/m³

	STEL: 100 ppm STEL: 384 mg/m³ Sk*	STEL: 100 ppm STEL: 384 mg/m³ Sk*	STEL: 100 ppm STEL: 384 mg/m³	STEL: 37.5 ppm STEL: 141 mg/m³ Sk*	Sk*
Beta-BHC/Beta-HCH 319-85-7	-	-	-	-	TWA: 0.17 mg/m³ *

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ Sk* Ceiling: 384 mg/m³	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 192 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*
Beta-BHC/Beta-HCH 319-85-7	-	-	TWA: 0.5 mg/m³ * Ceiling: 4 mg/m³	-	-

Chemical name	Sweden	Switzerland	United Kingdom
Toluene 108-88-3	NGV: 50 ppm NGV: 192 mg/m³ Bindande KGV: 100 ppm Bindande KGV: 384 mg/m³ Sk*	TWA: 50 ppm TWA: 190 mg/m³ STEL: 200 ppm STEL: 760 mg/m³ Sk*	TWA: 50 ppm TWA: 191 mg/m³ STEL: 100 ppm STEL: 384 mg/m³ Sk*
Beta-BHC/Beta-HCH 319-85-7	-	TWA: 0.2 mg/m³ H*	-

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Toluene 108-88-3	-	Check 10 g/dL Hemoglobin (blood - by the first screening and once yearly) 12 g/dL Hemoglobin (blood - by the first screening and once yearly) 3.2 million/µL Erythrocytes (blood - by the first screening and once yearly) 3.8 million/µL Erythrocytes (blood - by the first screening and once yearly)	1.6 mmol/mmol Creatinine - urine (Hippuric acid) - at the end of exposure or end of work shift	1.0 mg/L - blood (Toluene) - at the end of the work shift 20 ppm - final exhaled air (Toluene) - during exposure 2.50 g/g Creatinine - urine (Hippuric acid) - at the end of the work shift 1.0 mg/g Creatinine - urine (o-Cresol) - at the end of the work shift	1.6 µmol/mmol Creatinine (urine - o-Cresol end of shift) 1000 µmol/mmol Creatinine (urine - Hippuric acid end of shift) 1.5 mg/g Creatinine (urine - o-Cresol end of shift) 1600 mg/g Creatinine (urine - Hippuric acid end of shift)

		4000 Leukocytes/µL (blood - by the first screening and once yearly) 13000 Leukocytes/µL (blood - by the first screening and once yearly) 130000 Thrombocytes/µL (blood - by the first screening and once yearly) 150000 Thrombocytes/µL (blood - by the first screening and once yearly) 0.8 mg/L (urine - o-Cresol after end of work day, at the end of a work week/end of the shift)			
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Toluene 108-88-3	-	500 nmol/L (blood - Toluene in the morning after a working day)	20 µg/L - blood (Toluene) - end of workweek - urine (Hippuric acid) - end of shift	600 µg/L (whole blood - Toluene immediately after exposure) 75 µg/L (urine - Toluene end of shift) 1.5 mg/L (urine - o-Cresol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts) 1.5 mg/L (urine - o-Cresol (after hydrolysis) end of shift) 600 µg/L - BAT (immediately after exposure) blood 75 µg/L - BAT (end	600 µg/L (whole blood - Toluene immediately after exposure) 75 µg/L (urine - Toluene end of shift) 1.5 mg/L (urine - o-Cresol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts) 1.5 mg/L (urine - o-Cresol (after hydrolysis) end of shift)

				of exposure or end of shift) urine 1.5 mg/L - BAT (end of exposure or end of shift) urine	
Chemical name	Hungary	Ireland	Italy MDLPS		Italy AIDII
Toluene 108-88-3	1 mg/g Creatinine (urine - o-Cresol end of shift) 1 µmol/mmol Creatinine (urine - o-Cresol end of shift)	0.02 mg/L (blood - Toluene prior to last shift of workweek) 0.03 mg/L (urine - Toluene end of shift) 0.3 mg/g Creatinine (urine - o-Cresol end of shift)	-		0.3 mg/g Creatinine - urine (o-Cresol (with hydrolysis)) - end of shift 0.03 mg/L - urine (Toluene) - end of shift 0.02 mg/L - blood (Toluene) - prior to last shift of workweek
Chemical name	Latvia	Luxembourg	Romania		Slovakia
Toluene 108-88-3	1.6 g/g Creatinine - urine (Hippuric acid) - end of shift 0.05 mg/L - blood (Toluene) - end of shift	-	2 g/L - urine (Hippuric acid) - end of shift 3 mg/L - urine (o-Cresol) - end of shift		600 µg/L (blood - Toluene end of exposure or work shift) 1.5 mg/L (urine - o-Cresol after all work shifts) 1.5 mg/L (urine - o-Cresol end of exposure or work shift) 1600 mg/g creatinine (- Hippuric acid end of exposure or work shift)
Chemical name	Slovenia	Spain	Switzerland		United Kingdom
Toluene 108-88-3	600 µg/L - blood (Toluene) - immediately after exposure 1.5 mg/L - urine (o-Cresol (after hydrolysis)) - at the end of the work shift; for long-term exposure: at the end of the work shift after several consecutive workdays 75 µg/L - urine (Toluene) - at the end of the work shift	0.6 mg/L (urine - o-Cresol end of shift) 0.05 mg/L (blood - Toluene start of last shift of workweek) 0.08 mg/L (urine - Toluene end of shift)	600 µg/L (whole blood - Toluene end of shift) 6.48 µmol/L (whole blood - Toluene end of shift) 2 g/g creatinine (urine - Hippuric acid end of shift, and after several shifts (for long-term exposures)) 1.26 mmol/mmol creatinine (urine - Hippuric acid end of shift, and after several shifts (for long-term exposures)) 0.5 mg/L (urine - o-Cresol end of shift, and after several shifts (for long-term exposures)) 4.62 µmol/L (urine - o-Cresol end of shift, and		-

			after several shifts (for long-term exposures)) 75 µg/L (urine - Toluol end of shift)	

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Tight sealing safety goggles.

Hand protection Wear protective Viton™ gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Colour colourless
Odour Aromatic.
Odour threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point	-95 °C	None known
Initial boiling point and boiling range	110.6 °C	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	7.8 Vol% - 300 g/m³	
Lower flammability or explosive limits	1% - 39 g/m³	
Flash point	4 °C	None known
Autoignition temperature	535 °C	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	No data available	None known
Dynamic viscosity	0.6 mPa s	@ 20°C
Water solubility	520 mg/L	None known
Solubility(ies)	No data available	None known
Partition coefficient	2.7	None known
Vapour pressure	29.1 hPa	@ 20°C
Relative density	0.87	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	3.18	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. May cause irritation.

Skin contact Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapour concentrations may cause symptoms like

headache, dizziness, tiredness, nausea and vomiting.

Numerical measures of toxicity

Acute toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Toluene	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitisation No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	European Union
Beta-BHC/Beta-HCH	Carc. 2

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Toluene	Repr. 2

STOT - single exposure May cause drowsiness or dizziness.

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

Aspiration hazard May be fatal if swallowed and enters airways.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Toluene	EC50: =12.5mg/L (72h, Pseudokirchneriella subcapitata) EC50: >433mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 15.22 - 19.05mg/L (96h, Pimephales promelas) LC50: =12.6mg/L (96h, Pimephales promelas) LC50: 5.89 - 7.81mg/L (96h, Oncorhynchus mykiss) LC50: 14.1 - 17.16mg/L (96h, Oncorhynchus mykiss) LC50: =5.8mg/L (96h, Oncorhynchus mykiss) LC50: 11.0 - 15.0mg/L (96h, Lepomis macrochirus) LC50: =54mg/L (96h,	-	EC50: 5.46 - 9.83mg/L (48h, Daphnia magna) EC50: =11.5mg/L (48h, Daphnia magna)

		Oryzias latipes) LC50: =28.2mg/L (96h, Poecilia reticulata) LC50: 50.87 - 70.34mg/L (96h, Poecilia reticulata)		
Beta-BHC/Beta-HCH	-	LC50: 1.1 mg/l (96H, Fish)	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Toluene	2.7
Beta-BHC/Beta-HCH	3.8

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Toluene	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	UN1294
14.2 UN proper shipping name	Toluene mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1294, Toluene mixture, 3, II
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
ERG Code	3L

IMDG

14.1 UN number or ID number	UN1294
14.2 UN proper shipping name	Toluene mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1294, Toluene mixture, 3, II, (4°C c.c.)
14.5 Marine pollutant	NP
14.6 Special precautions for user	
Special Provisions	None
EmS-No.	F-E, S-D No information available
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1294
14.2 UN proper shipping name	Toluene mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1294, Toluene mixture, 3, II
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1

ADR

14.1 UN number or ID number	UN1294
14.2 UN proper shipping name	Toluene mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1294, Toluene mixture, 3, II, (D/E)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information

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

National regulations

France
Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Toluene 108-88-3	RG 4bis,RG 84	-

Water hazard class (WGK) obviously hazardous to water (WGK 2)

Netherlands

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Carcinogens	Netherlands - List of Reproductive Toxins
Toluene	-	-	Development Category 2

Poland **SDS created according to the following Polish regulation: Act of February 25, 2011 on chemical substances and their mixtures (Journal of Laws of 2018, item 143, as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency (EC) as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, as amended. Regulation of the Minister of Health of 10 August 2012 on the criteria and method of classifying chemical substances and their mixtures (Journal of Laws of 2012, item 1018). Regulation of the Minister of Health of 20 April 2012 on labeling packaging of hazardous substances and mixtures and some mixtures (Journal of**

Laws of 2012, item 445). Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the maximum allowable concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286). Announcement of the Minister of Economy, Labor and Social Policy of August 28, 2003 on the publication of the unified text of the Ordinance of the Minister of Labor and Social Policy on general health and safety at work regulations (Journal of Laws of 2003, No. 169, item 1650) . Regulation of the Minister of Health of 30 December 2004 on occupational safety and health related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86). Act of December 14, 2012 on waste (Journal of Laws of 2013, item 21) Regulation of the Minister of Health of December 30, 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal U. of 2005, No. 11, item 86). Waste Act of December 14, 2012 (Journal of Laws of 2013, item 21). Act of 13 June 2013 on the management of packaging and packaging waste, Journal of Laws 2013, item 888). Government statement of September 24, 2002 - European Agreement on the International Carriage of Dangerous Goods by Road (ADR) (Journal of Laws No. 194, item 1629 and Journal of Laws of 2003, No. 207, item 2013 and 2014).

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

DIRECTIVE (EU) 2021/1187 on the marketing and use of explosives precursors

Not applicable

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Toluene - 108-88-3	48. 75.	

Persistent Organic Pollutants

This product contains substances which are regulated pursuant to Regulation (EC) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants

Chemical name	Persistent Organic Pollutants per (EC) 2019/1021 - Annex Number
Beta-BHC/Beta-HCH - 319-85-7	ANNEX I

Export Notification requirements

This product contains substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals

Chemical name	European Export/Import Restrictions per (EC) 649/2012 - Annex Number
Beta-BHC/Beta-HCH - 319-85-7	V

Dangerous substance category per Seveso Directive (2012/18/EU)
P5a - FLAMMABLE LIQUIDS
P5b - FLAMMABLE LIQUIDS
P5c - FLAMMABLE LIQUIDS

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

EU - Water Framework Directive (2000/60/EC)

Chemical name	EU - Water Framework Directive (2000/60/EC)
Beta-BHC/Beta-HCH - 319-85-7	Priority hazardous substance

EU - Environmental Quality Standards (2008/105/EC)

Chemical name	EU - Environmental Quality Standards (2008/105/EC)
Beta-BHC/Beta-HCH - 319-85-7	Priority hazardous substance

International Inventories

TSCA	LGC, to the best of its ability, has confirmed that the chemical substances in this product are listed as “Active” in the EPA (Environmental Protection Agency) “TSCA Inventory Notification (Active-Inactive) Requirements Rule” (“the Final Rule”) of Feb 2019, as amended Feb 2021.”
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment is not required for this substance

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H225 - Highly flammable liquid and vapour
H301 - Toxic if swallowed
H304 - May be fatal if swallowed and enters airways
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H361d - Suspected of damaging the unborn child
H362 - May cause harm to breast-fed children
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method

Aspiration hazard	Calculation method
Ozone	Calculation method
Flammable liquids	On basis of test data

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 17-Apr-2024

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