



# 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 18-Jun-2024

Revision Number 1

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

### 1.1. Product identifier

Product Code(s)	DRE-XA11600000CY
Product Name	Chlorpyrifos 100 µg/mL in Cyclohexane
Form	Not applicable
Unique Formula Identifier (UFI)	NC3V-70PR-300R-GXQH
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](http://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
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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)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Category 3 Narcotic effects	
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)
Flammable liquids	Category 2 - (H225)

### 2.2. Label elements

Contains Cyclohexane



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**Signal word**  
Danger

## Hazard statements

H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H336 - May cause drowsiness or dizziness  
H410 - Very toxic to aquatic life with long lasting effects  
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  
P273 - Avoid release to the environment  
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, CO<sub>2</sub>, water spray or alcohol-resistant foam to extinguish  
P391 - Collect spillage  
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 persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

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
Cyclohexane	-	-

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable



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### 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)
Cyclohexane 110-82-7	80 - 100	-	203-806-2	Flam. Liq. 2 (H225) Skin Irrit. 2 (H315) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)			
Chlorpyrifos (ISO) 2921-88-2	<0.1	-	220-864-4 (015-084-00-4)	Acute Tox. 3 (H301) Acute Tox. 4 (H312) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)		10000	10000

**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
Cyclohexane 110-82-7	12705	2000	32.88	No data available	No data available
Chlorpyrifos (ISO) 2921-88-2	135	5000	No data available	No data available	No data available

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

## SECTION 4: First aid measures



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### 4.1. Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	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.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	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.
<b>Self-protection of the first aider</b>	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

<b>Symptoms</b>	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to doctors</b>	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.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

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**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.

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## 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. 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**

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### 8.1. Control parameters

#### Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL 800 ppm STEL 2800 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 350 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700.0 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> Sk*
Chlorpyrifos (ISO) 2921-88-2	-	TWA: 0.2 mg/m <sup>3</sup> STEL 0.4 mg/m <sup>3</sup> Sk*	TWA: 0.1 mg/m <sup>3</sup> Sk*	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 700 mg/m <sup>3</sup> Ceiling: 2000 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 172 mg/m <sup>3</sup> STEL: 100 ppm STEL: 344 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 350 mg/m <sup>3</sup> STEL: 250 ppm STEL: 875 mg/m <sup>3</sup>
Chlorpyrifos (ISO) 2921-88-2	-	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.4 mg/m <sup>3</sup> Sk*	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup> Sk*
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL: 375 ppm STEL: 1300 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> Peak: 800 ppm Peak: 2800 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>
Chlorpyrifos (ISO) 2921-88-2	TWA: 0.2 mg/m <sup>3</sup> Sk*	TWA: 0.2 mg/m <sup>3</sup> Sk*	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup> Sk*	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL: 600 ppm STEL: 2100 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 350 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 344 mg/m <sup>3</sup>	TWA: 23 ppm TWA: 80 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>
Chlorpyrifos (ISO) 2921-88-2	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> Sk*	-	TWA: 0.1 mg/m <sup>3</sup> Sk*	-	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL: 400 ppm STEL: 1400 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 525 mg/m <sup>3</sup> STEL: 187.5 ppm STEL: 656.25 mg/m <sup>3</sup>	TWA: 300 mg/m <sup>3</sup> STEL: 1000 mg/m <sup>3</sup> Sk*
Chlorpyrifos (ISO) 2921-88-2	-	-	-	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup> Sk*	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup> Sk*
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain





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Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL: 2800 mg/m <sup>3</sup> STEL: 800 ppm	TWA: 200 ppm TWA: 700 mg/m <sup>3</sup>
Chlorpyrifos (ISO) 2921-88-2	TWA: 0.1 mg/m <sup>3</sup> Sk*	-	-	TWA: 0.2 mg/m <sup>3</sup> Sk*	TWA: 0.1 mg/m <sup>3</sup> Sk*
Chemical name	Sweden		Switzerland		United Kingdom
Cyclohexane 110-82-7	NGV: 200 ppm NGV: 700 mg/m <sup>3</sup>		TWA: 200 ppm TWA: 700 mg/m <sup>3</sup> STEL: 800 ppm STEL: 2800 mg/m <sup>3</sup>		TWA: 100 ppm TWA: 350 mg/m <sup>3</sup> STEL: 300 ppm STEL: 1050 mg/m <sup>3</sup>
Chlorpyrifos (ISO) 2921-88-2	-		TWA: 0.2 mg/m <sup>3</sup> Sk*		TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup> Sk*

### Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Cyclohexane 110-82-7	-	-	-	150 mg/g Creatinine - urine (1,2-Cyclohexanedi ol) - at the end of the work shift; at chronic exposure after several successive shifts 450 µg/L - blood (Cyclohexanol) - during exposure 3.20 mg/g Creatinine - urine (Cyclohexanol) - during the second half of the work shift	-
Chlorpyrifos (ISO) 2921-88-2	-	-	50 % of the reference value for the person - erythrocytes (Acetyl-cholinestera se) - at the end of exposure or end of work shift, for prolonged exposure - after several work	30 % inhibition - blood (Acetyl cholinesterase activity) - at the end of the work shift 30 % inhibition - erythrocytes (Acetyl cholinesterase activity) - at the end of the work shift	-



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			shifts 30 % on the average for the group of exposed persons - erythrocytes (Acetyl-cholinesterase) - at the end of exposure or end of work shift, for prolonged exposure - after several work shifts		
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Cyclohexane 110-82-7	-	-	-	150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) end of shift) 150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts) 150 mg/g Creatinine - BAT (for long-term exposures: at the end of the shift after several shifts) urine	150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) end of shift) 150 mg/g Creatinine (urine - total 1,2-Cyclohexanediol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts)
Chlorpyrifos (ISO) 2921-88-2	-	-	-	70 % (erythrocytes - Acetylcholinesterase end of shift) 70 % (erythrocytes - Acetylcholinesterase for long-term exposures: at the end of the shift after several shifts) 70 % - BLW (at the end of the shift, in the case of long-term exposure after several previous shifts;	70 % (erythrocytes - Acetylcholinesterase end of shift) 70 % (erythrocytes - Acetylcholinesterase for long-term exposures: at the end of the shift after several shifts)



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				determination of individual pre-exposure values as reference values) erythrocytes	
Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII	
Chlorpyrifos (ISO) 2921-88-2	-	70 % of baseline (red blood cells - Cholinesterase activity discretionary)	-	70 % of baseline - red blood cells (Cholinesterase activity) - end of shift 60 % of baseline - plasma (Butyrylcholinesterase activity) - end of shift	
Chemical name	Latvia	Luxembourg	Romania	Slovakia	
Chlorpyrifos (ISO) 2921-88-2	-	-	30 % - blood (Cholinesterase activity) -	-	
Chemical name	Slovenia	Spain	Switzerland	United Kingdom	
Cyclohexane 110-82-7	150 mg/g Creatinine - urine (1,2-Cyclohexanediol (after hydrolysis)) - at the end of the work shift; for long-term exposure: at the end of the work shift after several consecutive workdays	-	150 mg/g creatinine (urine - total 1,2-Cyclohexanediol end of shift, and after several shifts (for long-term exposures)) 146 µmol/mmol creatinine (urine - total 1,2-Cyclohexanediol end of shift, and after several shifts (for long-term exposures))	-	
Chlorpyrifos (ISO) 2921-88-2	- erythrocyte fraction of whole blood (Acetylcholinesterase) - at the end of the work shift; for long-term exposure: at the end of the work shift after several consecutive workdays	1.5 % Methemoglobin in total hemoglobin (blood - Methemoglobin 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



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<b>Eye/face protection</b>	Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Tight sealing safety goggles.
<b>Hand protection</b>	Wear protective nitrile rubber 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.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	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.
<b>Environmental exposure controls</b>	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

<b>Physical state</b>	Liquid
<b>Appearance</b>	Liquid
<b>Colour</b>	colourless
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	6.5 °C	None known
<b>Initial boiling point and boiling range</b>	80.7 °C	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	9,3 Vol% - 326 g/m <sup>3</sup>	
<b>Lower flammability or explosive limits</b>	1 Vol% - 35 g/m <sup>3</sup>	
<b>Flash point</b>	-20 °C	None known
<b>Autoignition temperature</b>	260 °C	None known
<b>Decomposition temperature</b>		None known



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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	0.894 mPa s	@ 20°C
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	3.44	None known
Vapour pressure	103 hPa	@ 20°C
Relative density	0.78	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	2.9	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.



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## 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**

<b>Inhalation</b>	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 irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. May cause irritation.
<b>Skin contact</b>	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).
<b>Ingestion</b>	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**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-dust/mist)	99,999.00	mg/l
ATEmix (inhalation-vapour)	99,999.00	mg/l



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## Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cyclohexane	= 12705 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 32.88 mg/L ( Rat ) 4 h
Chlorpyrifos (ISO)	= 66 mg/kg ( Rat )	= 2000 mg/kg ( Rabbit )	> 200 mg/m <sup>3</sup> ( 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** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** May cause drowsiness or dizziness.

**STOT - repeated exposure** No information available.

**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** No information available.

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## 11.2.2. Other information

Other adverse effects No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Cyclohexane	EC50: >500mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: 3.96 - 5.18mg/L (96h, <i>Pimephales promelas</i> ) LC50: 23.03 - 42.07mg/L (96h, <i>Pimephales promelas</i> ) LC50: 24.99 - 44.69mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 48.87 - 68.76mg/L (96h, <i>Poecilia reticulata</i> )	-	EC50: 3.78mg/L (48h, <i>Daphnia magna</i> )
Chlorpyrifos (ISO)	-	LC50: 0.11 - 0.13mg/L (96h, <i>Pimephales promelas</i> ) LC50: =0.008mg/L (96h, <i>Cyprinus carpio</i> ) LC50: 0.0047 - 0.0075mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =0.0026mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =0.0013mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 0.002 - 0.032mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =0.011mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: <0.001mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =0.00717mg/L	-	EC50: 0.00012 - 0.00023mg/L (48h, <i>Daphnia magna</i> ) EC50: 0.00009 - 0.00012mg/L (48h, <i>Daphnia magna</i> )





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		(96h, Poecilia reticulata)		
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### 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
Cyclohexane	3.44
Chlorpyrifos (ISO)	4.96

### 12.4. Mobility in soil

Mobility in soil No information available.

### 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Cyclohexane	The substance is not PBT / vPvB
Chlorpyrifos (ISO)	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



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containers.

## SECTION 14: Transport information

### IATA

14.1 UN number or ID number	UN1145
14.2 UN proper shipping name	Cyclohexane mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1145, Cyclohexane mixture, 3, II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
ERG Code	3H

### IMDG

14.1 UN number or ID number	UN1145
14.2 UN proper shipping name	Cyclohexane mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1145, Cyclohexane mixture, 3, II, (-20°C c.c.), Marine pollutant
14.5 Marine pollutant	P
Environmental hazards	Yes
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	UN1145
14.2 UN proper shipping name	Cyclohexane mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1145, Cyclohexane mixture, 3, II, Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1

### ADR

14.1 UN number or ID number	UN1145
14.2 UN proper shipping name	Cyclohexane mixture
14.3 Transport hazard class(es)	3
14.4 Packing group	II



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Description	UN1145, Cyclohexane mixture, 3, II, (D/E), Environmentally Hazardous
14.5 Environmental hazards	Yes
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
Cyclohexane 110-82-7	RG 84	-
Chlorpyrifos (ISO) 2921-88-2	RG 34	-

Water hazard class (WGK) strongly hazardous to water (WGK 3)

##### 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



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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
Cyclohexane - 110-82-7	57 75	

## Persistent Organic Pollutants

Not applicable

## 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
Chlorpyrifos (ISO) - 2921-88-2	I.1 I.2

## Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

## Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable



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

Chemical name	EU - Water Framework Directive (2000/60/EC)
Chlorpyrifos (ISO) - 2921-88-2	Priority substance

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

Chemical name	EU - Environmental Quality Standards (2008/105/EC)
Chlorpyrifos (ISO) - 2921-88-2	Priority substance

## International Inventories

### TSCA

LGC has not confirmed that the chemical substances in this product are on the TSCA Inventory, and LGC is distributing this product solely for use either in applications statutorily exempt from TSCA and regulated under other laws (e.g., FFDCA, FIFRA) or in research and development activities in accordance with the TSCA Inventory R&D exemption provided at 40 CFR 720.36. It is the end-user's responsibility to understand and follow the requirements that apply to its use of this product.

Contact supplier for inventory compliance status

### DSL/NDSL

### EINECS/ELINCS

Contact supplier for inventory compliance status

### ENCS

Contact supplier for inventory compliance status

### IECSC

Contact supplier for inventory compliance status

### KECI

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



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H301 - Toxic if swallowed  
H304 - May be fatal if swallowed and enters airways  
H312 - Harmful in contact with skin  
H315 - Causes skin irritation  
H336 - May cause drowsiness or dizziness  
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
Reproductive toxicity	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) (AELG(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals



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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

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

## Disclaimer

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

**End of Safety Data Sheet**