acc. to Regulation (EC) No. 1907/2006 (REACH)



#### Ethylene glycol ≥99 %, for synthesis

article number: **9516** Version: **6.1 en** Replaces version of: 2024-03-02 Version: (6)

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

1.1 Product identifier

Identification of the substance	<b>Ethylene glycol</b> ≥99 %, for synthesis
Article number	9516
Index No (GB CLP)	603-027-00-1
EC number	203-473-3
CAS number	107-21-1
Alternative name(s)	Ethanediol

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

Relevant identified uses:

Laboratory chemical Laboratory and analytical use Formulation [mixing] of preparations and/or repackaging (excluding alloys) Industrial uses Professional uses

Uses advised against:

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feedingstuffs.

#### **1.3** Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

**Telephone:**+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

#### e-mail (competent person):

#### sicherheit@carlroth.de

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

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## **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### **Classification acc. to GHS**

Section	Hazard class		Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)		Acute Tox. 4	H302
3.9	3.9 Specific target organ toxicity - repeated exposure		STOT RE 2	H373

For full text of abbreviations: see SECTION 16

## The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

#### 2.2 Label elements

Labelling

Signal word Warning

Pictograms

GHS07, GHS08



#### Hazard statements

H302 Harmful if swallowed H373 May cause damage to organs (kidney) through prolonged or repeated exposure (if swallowed)

#### **Precautionary statements**

#### **Precautionary statements - prevention**

P260	Do not breathe mist/vapours
P270	Do not eat, drink or smoke when using this product

#### **Precautionary statements - response**

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

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## SECTION 3: Composition/information on ingredients

Substances	
Name of substance	Ethylene glycol
Molecular formula	$C_2H_6O_2$
Molar mass	62,07 <sup>g</sup> / <sub>mol</sub>
CAS No	107-21-1
EC No	203-473-3
Index No (GB CLP)	603-027-00-1

Substance, Specific Conc. Limits, M-factors, ATE							
Specific Conc. Limits     M-Factors     ATE     Exposure route							
-	-	500 <sup>mg</sup> / <sub>kg</sub>	oral				

## **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures



#### **General notes**

Take off contaminated clothing.

#### **Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### **Following ingestion**

Rinse mouth with water (only if the person is conscious). Call a doctor.

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

Fatigue, Vertigo, Agitation, Diarrhoea, Vomiting, Nausea, Unconsciousness

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

none

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## SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

#### 5.2 Special hazards arising from the substance or mixture

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

#### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

#### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a dry place. Hygroscopic.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Protect against external exposure, such as

humidity

Consideration of other advice:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

## **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### National limit values

#### **Occupational exposure limit values (Workplace Exposure Limits)**

Cou ntr y	Name of agent	CAS No	Identi- fier	TW A [pp m]	TWA [mg/ m³]	STE L [pp m]	STEL [mg/ m³]	Ceil ing- C [pp m]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
EU	ethylene glycol	107-21-1	IOELV	20	52	40	104			Н	2000/39/ EC
GB	ethane-1,2-diol	107-21-1	WEL		10					particl e	EH40/ 2005
GB	ethane-1,2-diol	107-21-1	WEL	20	52	40	104			vap	EH40/ 2005

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur
H Absorbed through the skin
particle As airborne particles
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)
vap As vapours

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luman health values								
Relevant DNELs and other threshold levels								
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time				
DNEL	35 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects				
DNEL	106 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects				

#### **Environmental values**

Relevant PNECs and other threshold levels								
End- point	Threshold level	Organism	Environmental com- partment	Exposure time				
PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)				
PNEC	1 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)				
PNEC	199,5 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)				
PNEC	37 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sediment	short-term (single instance)				
PNEC	3,7 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)				
PNEC	1,53 <sup>mg</sup> / <sub>kg</sub>	terrestrial organisms	soil	short-term (single instance)				

#### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### **Skin protection**



#### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

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#### material thickness

>0,3 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### **Respiratory protection**



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65  $^{\circ}$ C, colour code: Brown).

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless - light yellow
Odour	odourless
Melting point/freezing point	-14 – -12 °C at 1.013 hPa
Boiling point or initial boiling point and boiling range	197 – 198 °C at 1.013 hPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	3,2 vol% (LEL) - 43 vol% (UEL)
Flash point	111 °C at 1.013 hPa (ECHA)
Auto-ignition temperature	412 °C at 1.013 hPa (ECHA)
Decomposition temperature	not relevant
pH (value)	6 – 7,5 (in aqueous solution: 100 <sup>g</sup> / <sub>l</sub> , 20 °C)
Kinematic viscosity	not determined
Dynamic viscosity	16 – 18 mPa s at 25 °C
Solubility(ies)	
Water solubility	1.000 <sup>g</sup> / <sub>l</sub> at 20 °C (ECHA)
Partition coefficient	
Partition coefficient n-octanol/water (log value):	-1,36 (ECHA)
Soil organic carbon/water (log KOC)	0 (ECHA)

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	Vapour pressure	0,12 hPa at 25 °C
	Density and/or relative density	
	Density	1,11 <sup>g</sup> / <sub>cm³</sub> at 20 °C (ECHA)
	Relative vapour density	2,14 (air = 1)
	Particle characteristics	not relevant (liquid)
	Other safety parameters	
	Oxidising properties	none
9.2	Other information	
	Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
	Other safety characteristics:	There is no additional information.

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### If heated

Vapours may form explosive mixtures with air.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### **10.3** Possibility of hazardous reactions

**Exothermic reaction with:** Sulphuric acid, Alkali hydroxide (caustic alkali), Aluminium, Nitric acid, **Risk of ignition:** Chlorates, Permanganates, Peroxides, strong oxidiser

#### 10.4 Conditions to avoid

Protect from moisture. Keep away from heat.

#### **10.5** Incompatible materials

aluminium, zinc

#### **10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

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## **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

#### **Classification acc. to GHS**

#### Acute toxicity

Harmful if swallowed.

GHS of the United Nations, annex 4. May be harmful in contact with skin.

Acute toxicity								
Exposure route	Endpoint	Value	Species	Method	Source			
dermal	LD50	>3.500 <sup>mg</sup> / <sub>kg</sub>	mouse		ECHA			
oral	LD50	4.700 <sup>mg</sup> / <sub>kg</sub>	rat		TOXNET			

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### **Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

#### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### Specific target organ toxicity - repeated exposure

May cause damage to organs (kidney) through prolonged or repeated exposure (if swallowed).

Hazard category	Target organ	Exposure route
2	kidney	if swallowed

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

diarrhoea, vomiting, nausea, Liver and kidney damage

#### • If in eyes

essentially non-irritating

#### • If inhaled

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Data are not available.

#### • If on skin

essentially non-irritating

#### • Other information

Other adverse effects: Loss of righting reflex, and ataxia, Unconsciousness, Drowsiness, Agitation

#### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

#### **11.3** Information on other hazards

There is no additional information.

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LC50	>72.860 <sup>mg</sup> / <sub>l</sub>	fish	ECHA	96 h
EC50	>100 <sup>mg</sup> / <sub>l</sub>	daphnia magna	ECHA	48 h
ErC50	<13.000 <sup>mg</sup> / <sub>l</sub>	algae	ECHA	96 h

#### Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
LC50	>1.500 <sup>mg</sup> / <sub>l</sub>	fish	ECHA	28 d
EC50	>15.000 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	ECHA	21 d

#### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 1,29 <sup>g</sup>/<sub>g</sub> Theoretical Carbon Dioxide: 1,418 <sup>mg</sup>/<sub>mg</sub>

#### Biodegradation

The substance is readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	83 - 96 %	14 d
DOC removal	90 – 100 %	10 d

#### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

1	n-octanol/water (log KOW)	-1,36 (ECHA)	
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## 12.4 Mobility in soil

Henry's law constant	0,013 <sup>Pa m³</sup> / <sub>mol</sub> at 25 °C (ECHA)
The Organic Carbon normalised adsorption coefficient	n 0 (ECHA)

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

#### 12.7 Other adverse effects

Data are not available.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### **Properties of waste which render it hazardous**

HP 5 specific target organ toxicity (STOT)/aspiration toxicity

HP 6 acute toxicity

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## **SECTION 14: Transport information**

- 14.1 UN number or ID number
- 14.2 UN proper shipping name
- 14.3 Transport hazard class(es)
- 14.4 Packing group
- 14.5 Environmental hazards

not subject to transport regulations

not assigned

none

#### not assigned

non-environmentally hazardous acc. to the dangerous goods regulations

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- **14.6** Special precautions for user There is no additional information.
- **14.7** Maritime transport in bulk according to IMO instruments The cargo is not intended to be carried in bulk.

#### 14.8 Information for each of the UN Model Regulations

**International Maritime Dangerous Goods Code (IMDG) - Additional information** Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information** Not subject to ICAO-IATA.

## **SECTION 15: Regulatory information**

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/	18/EU (Seveso III)		
Νο	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements	Notes
	not assigned		

#### **Deco-Paint Directive**

VOC content	100 %
VOC content	1.110 <sup>g</sup> / <sub>l</sub>

#### Industrial Emissions Directive (IED)

VOC content	100 %
VOC content	1.110 <sup>g</sup> / <sub>l</sub>

## Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

# Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

#### Water Framework Directive (WFD)

not listed

#### Regulation on the marketing and use of explosives precursors

not listed

#### **Regulation on drug precursors**

not listed

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#### **Regulation on substances that deplete the ozone layer (ODS)**

#### not listed

#### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

#### **Regulation on persistent organic pollutants (POP)**

not listed

#### National regulations(GB)

#### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list not listed

#### **Restrictions according to GB REACH, Annex 17**

Dangerous substances with restr	ictions (GB REACH, Annex 17)		
Name of substance	Name acc. to inventory	CAS No	No
Ethylene glycol	this product meets the criteria for classi- fication in accordance with Regulation No 1272/2008/EC		3

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

#### Legend AIIC

DSL ECSI IECSC INSQ

Australian Inventory of Industrial Chemicals Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) Domestic Substances List (DSL) EC Substance Inventory (EINECS, ELINCS, NLP) Inventory of Existing Chemical Substances Produced or Imported in China National Inventory of Chemical Substances CICR CSCL-ENCS

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Legend	
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

## **SECTION 16: Other information**

## Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional in- formation: Not subject to ADR, RID and ADN.		yes
15.1	VOC content: 100 % 1.110 <sup>g</sup> / <sub>l</sub>	VOC content: 100 %	yes
15.1		VOC content: 1.110 <sup>g</sup> / <sub>l</sub>	yes
15.1		National inventories: change in the listing (table)	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in imple- mentation of Council Directive 98/24/EC
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi- fier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)

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Abbr.	Descriptions of used abbreviations
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions
ΙΑΤΑ	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

#### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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#### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H373	May cause damage to organs (kidney) through prolonged or repeated exposure (if swallowed).

#### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.