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

Chloramine T trihydrate ≥98 %, p.a.

article number: 0271 Version: 3.0 en

Replaces version of: 2020-03-19

Version: (2)



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

Product identifier 1.1

Identification of the substance **Chloramine T trihydrate** ≥98 %, p.a.

Article number 0271

EC number 204-854-7 CAS number 7080-50-4

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for squirting or spraying. Do not use

for products which come into direct contact with the skin. Do not use for products which come into contact with foodstuffs. Do not use for private

purposes (household).

Details of the supplier of the safety data sheet 1.3

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

Emergency telephone number 1.4

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

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Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	Skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.4R	Respiratory sensitisation	1	Resp. Sens. 1	H334

Supplemental hazard information

Code	Supplemental hazard information
EUH031	contact with acids liberates toxic gas

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS05, GHS07, GHS08







Hazard statements

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements

Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water [or shower]

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing

P310 Immediately call a POISON CENTER/doctor

Supplemental hazard information

EUH031 Contact with acids liberates toxic gas.

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SECTION 3: Composition/information on ingredients

Substances

Name of substance Chloramine T trihydrate Molecular formula (C7H4SO2NCI)Na · 3 H2O

Molar mass 281,7 g/mol CAS No 7080-50-4 EC No 204-854-7

Substance, Specific Conc. Limits, M-factors, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	>381,6 ^{mg} / _{kg}	oral

SECTION 4: First aid measures

4.1 **Description of first aid measures**



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

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

Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

Following ingestion

Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Most important symptoms and effects, both acute and delayed 4.2

Corrosion, Vomiting, Risk of blindness, Gastric perforation, Allergic reactions, Cough, Dyspnoea

Indication of any immediate medical attention and special treatment needed 4.3

none

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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.

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SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides (SOx), Hydrogen chloride (HCl)

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. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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

Precautions for safe handling

Provision of sufficient ventilation. Handle and open container with care. Avoid dust formation. Clear contaminated areas thoroughly.

Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

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

Conditions for safe storage, including any incompatibilities 7.2

Store in a dry place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, contact with air/oxygen

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

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)

Coun	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005

Notation

Ceiling value is a limit value above which exposure should not occur Inhalable fraction Ceiling-C

Respirable fraction

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)

Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 **TWA**

hours time-weighted average (unless otherwise specified)

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Human health values

Relevant DNELs and other threshold levels					
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time	
DNEL	19,1 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects	
DNEL	13,5 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects	

Environmental values

Relevant	Relevant PNECs and other threshold levels						
End- Threshold Organism E point level		Environmental com- partment	Exposure time				
PNEC	0,11 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)			
PNEC	0,011 ^{mg} / _l	aquatic organisms	marine water	short-term (single instance)			
PNEC	0,057 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)			
PNEC	0,97 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)			
PNEC	0,097 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)			
PNEC	0,408 ^{mg} / _{kg}	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. Wear face protection.

Skin protection





hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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 considerable 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 quide.

• type of material

NBR (Nitrile rubber)

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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: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White). Aerosol or mist formation. Type: E (against acidic gases like sulphur dioxide or hydrogen chloride, colour code: Yellow).

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 solid

Form crystalline
Colour whitish yellow
Odour like: - chlorine

Melting point/freezing point >60 °C (Release of crystal water)

Boiling point or initial boiling point and boiling

range

not determined

Flammability this material is combustible, but will not ignite

readily

Lower and upper explosion limit not determined

Flash point 192 °C

Auto-ignition temperature 600 °C (ECHA)

Decomposition temperature >60 °C (Release of crystal water)

pH (value) 8-11 (in aqueous solution: $50 \, {}^{9}/_{l}$, $20 \, {}^{\circ}$ C)

Kinematic viscosity not relevant

Solubility(ies)

Water solubility (soluble)

Partition coefficient

Partition coefficient n-octanol/water (log value): -1,3 (pH value: 9,4, 20 °C) (ECHA) (anhydrous)

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Vapour pressure 0 Pa at 25 °C

Density and/or relative density

Density not determined

Relative vapour density information on this property is not available

Bulk density $540 - 680 \text{ kg/m}^3$

Particle characteristics No data available.

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:

Surface tension $67,23 \text{ mN/}_{\text{m}} (19,9 \text{ °C}) \text{ (ECHA)}$

SECTION 10: Stability and reactivity

10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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

Heating may cause an explosion,

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >60 °C. Contact with air/oxygen.

10.5 Incompatible materials

There is no additional information.

Release of toxic materials with

Acids.

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.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>381,6 ^{mg} / _{kg}	rat	anhydrous	ECHA

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

May produce an allergic reaction, cough, Dyspnoea

• If on skin

causes severe burns, causes poorly healing wounds

Other information

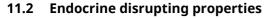
none

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Not listed.

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	100 ^{mg} / _l	fish	ECHA	96 h	
ErC50	13 ^{mg} / _l	algae	ECHA	96 h	

Aquatic toxicity (chronic)					
Endpoint	Value	Species	Source	Exposure time	
EC50	5 ^{mg} / _l	microorganisms	ECHA	5 min	

Biodegradation

The substance is readily biodegradable.

12.2 Process of degradability

Theoretical Oxygen Demand with nitrification: 1,079 $^{\rm mg}/_{\rm mg}$ Theoretical Oxygen Demand: 0,8803 $^{\rm mg}/_{\rm mg}$ Theoretical Carbon Dioxide: 1,094 $^{\rm mg}/_{\rm mg}$

Process of degradability	
Process	Degradatio

Process	Degradation rate	Time
biotic/abiotic	90 %	28 d
oxygen depletion	92 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-1,3 (pH value: 9,4, 20 °C) (ECHA) (Anhydrous)
BCF	2,2 (ECHA)

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Henry's law constant 0 Pa m³/_{mol} (ECHA)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

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

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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. Waste catalogue ordinance (Germany).

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.

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID UN 3263
IMDG-Code UN 3263
ICAO-TI UN 3263

14.2 UN proper shipping name

ADRRID CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. IMDG-Code CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.

ICAO-TI Corrosive solid, basic, organic, n.o.s.

Technical name Chloramine T trihydrate

14.3 Transport hazard class(es)

ADRRID 8

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IMDG-Code 8
ICAO-TI 8

14.4 Packing group

ADRRID II
IMDG-Code II
ICAO-TI II

14.5 Environmental hazards non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Proper shipping name CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.

Particulars in the transport document UN3263, CORROSIVE SOLID, BASIC, ORGANIC,

N.O.S., (Chloramine T trihydrate), 8, II, (E)

Classification code C8
Danger label(s) 8



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 kg

Transport category (TC) 2

Tunnel restriction code (TRC) E

Hazard identification No 80

Emergency Action Code 2X

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

Classification code C8

Danger label(s) 8



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 kg

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Transport category (TC) 2
Hazard identification No 80

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.

Particulars in the shipper's declaration UN3263, CORROSIVE SOLID, BASIC, ORGANIC,

N.O.S., (Chloramine T trihydrate), 8, II

Marine pollutant -

Danger label(s) 8



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 kg

EmS F-A, S-B

Stowage category B

Segregation group 18 - Alkalis

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Corrosive solid, basic, organic, n.o.s.

Particulars in the shipper's declaration UN3263, Corrosive solid, basic, organic, n.o.s.,

(Chloramine T trihydrate), 8, II

Danger label(s) 8



Special provisions (SP)

Excepted quantities (EQ)

Limited quantities (LQ)

5 kg

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/	2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes	
	not assigned			

Deco-Paint Directive

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VOC content	0 %
	0 %

Industrial Emissions Directive (IED)

VOC content	0 %
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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)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Chloramine T trihydrate	Organohalogen compounds and substances which may form such compounds in the aquatic envir- onment		a)	
Chloramine T trihydrate	Metals and their compounds		a)	

Legend

A) Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

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

not listed

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.

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National inventories

Country	Inventory	Status
CN	IECSC	substance is listed
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed

Legend

CICR ECSI

Chemical Inventory and Control Regulation EC Substance Inventory (EINECS, ELINCS, NLP) Inventory of Existing Chemical Substances Produced or Imported in China New Zealand Inventory of Chemicals Philippine Inventory of Chemicals and Chemical Substances (PICCS) Taiwan Chemical Substance Inventory

NZIoC

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)

Alignment to regulation:

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		Supplemental hazard information: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Skin corrosion produces an irreversible dam- age to the skin; namely, visible necrosis through the epidermis and into the dermis.	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by I land Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concer ing the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substance
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 causir 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 idea fier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
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 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 N tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval

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Abbr.	Descriptions of used abbreviations
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
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
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).

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

Code	Text
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Disclaimer

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

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