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



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Diphenylamine ≥99 %, p.a., ACS

article number: **9865** Version: **3.0 en** Replaces version of: 2022-02-07 Version: (2)

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

1.1 Product identifier

Identification of the substance	Diphenylamine ≥99 %, p.a., ACS
Article number	9865
EC number	204-539-4
CAS number	122-39-4

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

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	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	Acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331

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Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

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. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

Signal word Danger

Pictograms



Hazard statements

H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H373	May cause damage to organs (spleen, liver, kidney) through prolonged or re-
	peated exposure
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P260	Do not breathe dust
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of water
P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician

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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3.1

SECTION 3: Composition/information on ingredients

Substances	
Name of substance	Diphenylamine
Molecular formula	$C_{12}H_{11}N$
Molar mass	169,2 ^g / _{mol}
CAS No	122-39-4
EC No	204-539-4

Substance, Specific Conc. Limits, M-factors, ATE					
Specific Conc. Limits	M-Factors	ATE	Exposure route		
-	-	100 ^{mg} / _{kg} 300 ^{mg} / _{kg} 0,5 ^{mg} / _l /4h	oral dermal inhalation: dust/ mist		

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

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

Following skin contact

After contact with skin, wash immediately with plenty of water.

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 immediately and drink plenty of water. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, Cough, Dyspnoea, Cardiac arrhythmias

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, 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)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. 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. 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. 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 7.1

Provision of sufficient ventilation. Use extractor hood (laboratory). 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.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, UV-radiation/sunlight

Consideration of other advice:

Store locked up.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. 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 try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m ³]	Nota- tion	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005
GB	diphenylamine	122-39-4	WEL	10	20			EH40/2005

Notation

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

Inhalable fraction **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 hours time-weighted average (unless otherwise specified) TWA

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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. 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 guide.

• type of material

NBR (Nitrile rubber)

• material thickness

>0,11 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). P3 (filters at least 99,95 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1	Information on basic physical and chemical pro	perties
	Physical state	solid
	Form	powder
	Colour	cream
	Odour	faintly perceptible
	Melting point/freezing point	50 – 54 °C
	Boiling point or initial boiling point and boiling range	300 – 302 °C
	Flammability	this material is combustible, but will not ignite readily
	Lower and upper explosion limit	not determined
	Flash point	153 °C (c.c.)
	Auto-ignition temperature	not determined
	Decomposition temperature	not relevant
	pH (value)	not applicable
	Kinematic viscosity	not relevant
	Solubility(ies)	
	Water solubility	(practically insoluble)
	Partition coefficient	
	Partition coefficient n-octanol/water (log value):	3,5 (TOXNET) (exp. Lit.)
	Vapour pressure	1,33 hPa at 108 °C
	Density and/or relative density	
	Density	1,16 ^g / _{cm³} at 20 °C
	Relative vapour density	information on this property is not available
	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:	There is no additional information.



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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

Violent reaction with: strong oxidiser, Strong acid

10.4 Conditions to avoid

UV-radiation/sunlight. Keep away from heat.

10.5 Incompatible materials aluminium, copper, zinc

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	600 ^{mg} / _{kg}	rat		ECHA

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).

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Specific target organ toxicity - repeated exposure

May cause damage to organs (spleen, liver, kidney) through prolonged or repeated exposure.

Hazard category	Target organExposure route	
2	spleen	if exposed
2	liver	if exposed
2	kidney	if exposed

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

Data are not available.

• If in eyes

causes slight to moderate irritation

• If inhaled

irritant effects, cough, Dyspnoea

If on skin

Frequently or prolonged contact with skin may cause dermal irritation, risk of absorption via the skin

Other information

Other adverse effects: Liver and kidney damage, Headache, Blood pressure drop, Cardiac arrhythmias, Spasms

11.2 Endocrine disrupting properties

Not listed.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)					
Endpoint	Value	Species	Source	Exposure time	
EC50	2 ^{mg} / _l	aquatic invertebrates	ECHA	48 h	
ErC50	2,17 ^{mg} / _l	algae	ECHA	72 h	

Biodegradation

Data are not available.

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12.2 Process of degradability

Theoretical Oxygen Demand with nitrification: 2,978 ^{mg}/_{mg} Theoretical Oxygen Demand: 2,647 ^{mg}/_{mg} Theoretical Carbon Dioxide: 3,121 ^{mg}/_{mg}

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	3,5 (TOXNET) (Exp. Lit.)	

12.4 Mobility in soil

Data are not available.

- **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. Avoid release to the environment. Refer to special instructions/safety data sheets.

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.

Properties of waste which render it hazardous

- HP 5 specific target organ toxicity (STOT)/aspiration toxicity
- HP 6 acute toxicity
- HP 14 ecotoxic

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.

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SEC	TION 14: Transport information	
14.1	UN number or ID number	
	ADRRID	UN 2811
	IMDG-Code	UN 2811
	ICAO-TI	UN 2811
14.2	UN proper shipping name	
	ADRRID	TOXIC SOLID, ORGANIC, N.O.S.
	IMDG-Code	TOXIC SOLID, ORGANIC, N.O.S.
	ICAO-TI	Toxic solid, organic, n.o.s.
	Technical name	Diphenylamine >=99 %, p.a., ACS
14.3	Transport hazard class(es)	
	ADRRID	6.1
	IMDG-Code	6.1
	ICAO-TI	6.1
14.4	Packing group	
	ADRRID	III
	IMDG-Code	III
	ICAO-TI	III
14.5	Environmental hazards	hazardous to the aquatic environment

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 a information	and inland waterway (ADR/RID/ADN) - Additional
Proper shipping name	TOXIC SOLID, ORGANIC, N.O.S.
Particulars in the transport document	UN2811, TOXIC SOLID, ORGANIC, N.O.S., (Diphen- ylamine >=99 %, p.a., ACS), 6.1, III, (E), environ- mentally hazardous
Classification code	T2
Danger label(s)	6.1, "Fish and tree"
Environmental hazards	Yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ)	E1

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

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Limited quantities (LQ)	5 kg
Transport category (TC)	2
Tunnel restriction code (T	C) E
Hazard identification No	60
Emergency Action Code	2X
Regulations concerning information	he International Carriage of Dangerous Goods by Rail (RID)Addition
Classification code	T2
Danger label(s)	6.1 Fish and tree
Environmental hazards	Yes Hazardous to water
Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Hazard identification No	60
International Maritime	angerous Goods Code (IMDG) - Additional information
Proper shipping name	TOXIC SOLID, ORGANIC, N.O.S.
Particulars in the shipper	declaration UN2811, TOXIC SOLID, ORGANIC, N.O.S., (Dipl ylamine >=99 %, p.a., ACS), 6.1, III, MARINE PC LUTANT
Marine pollutant	Yes (hazardous to the aquatic environment)
Danger label(s)	6.1, "Fish and tree"
Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-A
Stowage category	Α
International Civil Aviat	on Organization (ICAO-IATA/DGR) - Additional information
Proper shipping name	Toxic solid, organic, n.o.s.
Particulars in the shipper	declaration UN2811, Toxic solid, organic, n.o.s., (Diphenyl ine >=99 %, p.a., ACS), 6.1, III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	6.1

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\searrow	
Special provisions (SP)	A3, A5
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1 **Relevant provisions of the European Union (EU)**

Seveso Directive

2012/18/EU (Seveso III)						
Νο	Dangerous substance/hazard categories	G Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes		
H2	acute toxic (cat. 2 + cat. 3, inhal.)	50	200	41)		

Notation

41) - Category 2, all exposure routes - category 3, inhalation exposure route

Deco-Paint Directive

0.51

Industrial Emissions Directive (IED)

VOC content	100 %
VOC content	1.160 ^g / _l

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
Diphenylamine >=99 %, p.a., ACS	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		a)	

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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)

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	Name acc. to inventory	CAS No	Wt%	Category / subcat- egory	Use limita- tion
Diphenylamine >=99 %, p.a., ACS	diphenylamine	122-39-4	100	p(1)	b
Diphenylamine >=99 %, p.a., ACS	diphenylamine	122-39-4	100	р	b

Legend

b

Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation

Category: p - pesticides Sub-category: p(1) - pesticide in the group of plant protection products р р(1)

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.

National inventories

Inventory	Status
AIIC	substance is listed
DSL	substance is listed
IECSC	substance is listed
ECSI	substance is listed
REACH Reg.	substance is listed
CSCL-ENCS	substance is listed
ISHA-ENCS	substance is listed
KECI	substance is listed
	AIIC DSL IECSC ECSI REACH Reg. CSCL-ENCS ISHA-ENCS

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Country	Inventory	Status
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

Legend

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

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		The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.	yes
2.2		Hazard statements: change in the listing (table)	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

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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 naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)
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)
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)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
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 Na- 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
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

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Abbr.	Descriptions of used abbreviations
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
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H373	May cause damage to organs (spleen, liver, kidney) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Disclaimer

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