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

Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553 date of compilation: 2017-04-27 Version: **4.0 en** Revision: 2023-06-06

Replaces version of: 2022-07-15

Version: (3)

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

Product identifier 1.1

Identification of the substance Sodium formaldehyde sulphoxylate dihydrate

≥98 %, for synthesis

Article number 4553

EC number 205-739-4 CAS number 6035-47-8

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

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 feeding-

stuffs.

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

Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.5	Germ cell mutagenicity	2	Muta. 2	H341
3.7	Reproductive toxicity	2	Repr. 2	H361d

United Kingdom (en) Page 1 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Supplemental hazard information

Code	Supplemental hazard information
EUH031	contact with acids liberates toxic gas

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling

Signal word Warning

Pictograms

GHS08



Hazard statements

H341 Suspected of causing genetic defects (if exposed)
H361d Suspected of damaging the unborn child (if exposed)

Precautionary statements

Precautionary statements - prevention

P201 Obtain special instructions before use

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

P280 Wear protective gloves/eye protection

Precautionary statements - response

P308+P313 IF exposed or concerned: Get medical advice/attention

For professional users only

Supplemental hazard information

EUH031 Contact with acids liberates toxic gas.

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 (EDC) in a concentration of $\geq 0.1\%$.

United Kingdom (en) Page 2 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Sodium formaldehyde sulphoxylate dihydrate

Molecular formula CH₃NaO₃S · 2 H₂O

Molar mass 154,1 ⁹/_{mol}
CAS No 6035-47-8
EC No 205-739-4

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.

Following eye contact

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

Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

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

United Kingdom (en) Page 3 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

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: Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides (SOx)

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

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

United Kingdom (en) Page 4 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Incompatible substances or mixtures

Observe hints for combined storage.

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 try	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 hours time-weighted average (unless otherwise specified) TWA

Human health values

Relevant DNELs and other threshold levels Threshold **Endpoint** Protection goal, **Used in Exposure time** level route of exposure **DNEL** 21 mg/m³ human, inhalatory chronic - systemic effects worker (industry) DNEL 140 mg/m³ human, inhalatory worker (industry) acute - systemic effects DNEL 6 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects **DNEL** 40 mg/kg bw/ human, dermal worker (industry) acute - systemic effects day DNEL 225 μg/cm² human, dermal worker (industry) acute - local effects

United Kingdom (en) Page 5 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Environmental values

Relevant PNECs and other threshold levels

End- point	Threshold level	Organism	Environmental com- partment	Exposure time
PNEC	56 ^{µg} / _I	aquatic organisms	water	intermittent release
PNEC	0,56 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)
PNEC	56 ^{μg} / _l	aquatic organisms	marine water	short-term (single instance)
PNEC	10 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	3,79 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0,38 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0,43 ^{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.

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 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

United Kingdom (en) Page 6 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

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).

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

Colour not determined Odour characteristic

Melting point/freezing point 51 °C (anhydrous) (decomposition)

Boiling point or initial boiling point and boiling

range

not determined

this material is combustible, but will not ignite **Flammability**

readily

Lower and upper explosion limit not determined Flash point not applicable Auto-ignition temperature not determined

Decomposition temperature 51 °C at 1.013 hPa (ECHA)

10 (in aqueous solution: 100 $^{\rm g}$ / $_{\rm l}$, 20 $^{\rm o}$ C) (DIN 53785) pH (value)

Kinematic viscosity not relevant

Solubility(ies)

Water solubility $>1.000 \, {\rm g/I}$ at 25 °C (ECHA)

Partition coefficient

Partition coefficient n-octanol/water (log value): -3,4

Soil organic carbon/water (log KOC) -5,565 (ECHA)

Vapour pressure not determined

Density and/or relative density

Density not determined

Relative vapour density information on this property is not available

United Kingdom (en) Page 7 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Bulk density $\sim 1.000 \, \mathrm{kg/m^3}$

Particle characteristics No data available.

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard 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

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, Dangerous/dangerous reactions with: Acids

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: 51 °C at 1.013 hPa.

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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful if swallowed.

United Kingdom (en) Page 8 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	≥5.000 ^{mg} / _{kg}	rat		ECHA
dermal	LD50	≥2.000 ^{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

Suspected of causing genetic defects (if exposed).

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Suspected of damaging the unborn child (if exposed).

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

Data are not available.

• If in eyes

essentially non-irritating

• If inhaled

essentially non-irritating

• If on skin

essentially non-irritating

Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

11.3 Information on other hazards

There is no additional information.

United Kingdom (en) Page 9 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

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	>10.000 ^{mg} / _l	fish	ECHA	24 h
EC50	>100 ^{mg} / _I	aquatic invertebrates	ECHA	24 h
ErC50	370 ^{mg} / _l	algae	ECHA	72 h
EbC50	220 ^{mg} / _l	algae	ECHA	72 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
LC50	>10.000 ^{mg} / _l	fish	ECHA	1 h
EC50	16 ^{mg} / _l	aquatic invertebrates	ECHA	21 d
EbC50	>17 ^{mg} / _l	aquatic invertebrates	ECHA	21 d

12.2 Persistence and degradability

Biodegradation

The substance is readily biodegradable.

Process of degradability

Process	Degradation rate	Time
biotic/abiotic	>70 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) -3,4	
--------------------------------	--

12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient	-5,565 (ECHA)
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12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of \geq 0,1%.

12.7 Other adverse effects

Data are not available.

United Kingdom (en) Page 10 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

SECTION 13: Disposal considerations

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 10 toxic for reproduction

HP 11 mutagenic HP 12 release of an acute toxic gas

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	not subject to transport regulations

14.2 UN proper shipping name not assigned

14.3 Transport hazard class(es) none

Packing group not assigned

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

gerous goods regulátions

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.

United Kingdom (en) Page 11 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

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

Deco-Paint Directive

VOC content	0 %
VOC content	0 ^g / _l

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 ^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
Sodium formaldehyde sulph- oxylate dihydrate	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)	
Sodium formaldehyde sulph- oxylate dihydrate	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

United Kingdom (en) Page 12 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

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.

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)

Legend

Australian Inventory of Industrial Chemicals Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) AIIC CICR 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
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 Substances Inventory

Taiwan Chemical Substance Inventory TCSI TSCA

Toxic Substance Control Act

15.2 Chemical safety assessment

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

United Kingdom (en) Page 13 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
1.1	EC number: 611-965-8	EC number: 205-739-4	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.	yes
14.8	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information: Not subject to ADR, RID and ADN.		yes
15.1	VOC content: 0 % 0 ⁹ / _l	VOC content: 0 %	yes
15.1		VOC content: 0 ^g / _l	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
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
EbC50	≡ 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
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 identifier 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
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 Nations
IATA	International Air Transport Association

United Kingdom (en) Page 14 / 15

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



Sodium formaldehyde sulphoxylate dihydrate ≥98 %, for synthesis

article number: 4553

Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	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
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
H341	Suspected of causing genetic defects (if exposed).
H361d	Suspected of damaging the unborn child (if exposed).

Disclaimer

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

United Kingdom (en) Page 15 / 15