

# Safety Data Sheet

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

# FRAGOL

## FRAGOLTHERM 660

Version number: 3.0  
Replaces version of: 2018-03-14 (2)

Revision: 2018-07-24

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

#### 1.1 Product identifier

Identification of the substance	<b>Terphenyl, hydrogenated</b>
Trade name	<b>FRAGOLTHERM 660</b>
Registration number (REACH)	01-2119488183-33-xxxx
EC number	262-967-7
CAS number	61788-32-7

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

Relevant identified uses	Professional use Industrial use Heat transfer fluids Plasticizer Solvents
Uses advised against	Do not use for private purposes (household)

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

FRAGOL AG  
Solinger Straße 16  
D-45481 Mülheim  
Germany

Telephone: +49 (0)208-300 02-50  
Telefax: +49 (0)208-300 02-33  
e-mail: [htf@fragol.de](mailto:htf@fragol.de)  
Website: [www.fragol.de](http://www.fragol.de)

e-mail (competent person) [htf@fragol.de](mailto:htf@fragol.de)

#### 1.4 Emergency telephone number

Emergency information service +49 (0)208-300 02-50  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre		
Country	Name	Telephone
United Kingdom	National Poisons Information Service (NPIS) (medical professionals only)	0344-8920111
United Kingdom	NHS (general public)	non-emergency: 111 or a doctor; emergency: 999

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

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The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses. The substance was identified as a PBT (persistent, bioaccumulative and toxic). The substance was identified as a vPvB (very persistent and very bioaccumulative).

Additional information

Containing a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word Not required.

- pictograms

GHS09



- hazard statements

H411 Toxic to aquatic life with long lasting effects.

- precautionary statements

P273 Avoid release to the environment.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

Of no significance.

Results of PBT and vPvB assessment

This substance / mixture contains components classified as either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Terphenyl, hydrogenated
Identifiers	
REACH Reg. No	01-2119488183-33-xxxx
CAS No	61788-32-7
EC No	262-967-7
Purity	100 %

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Take off contaminated clothing. After contact with skin, wash immediately with plenty of water and soap.

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### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.

### Following ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting.

## 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

Treat symptomatically. For specialist advice physicians should contact the poison centre.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, Dry extinguishing powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet.

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

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Wear suitable protective clothing and gloves.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

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### 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

#### Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Take precautionary measures against static discharge.

#### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingsuffs.

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

#### Managing of associated risks

- flammability hazards

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from oxidizing substances. Keep away from reducing substances.

#### Control of effects

#### Protect against external exposure, such as

Heat. High temperatures. UV-radiation/sunlight. Static discharges.

#### Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

There is no additional information.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Source
EU	terphenyl, hydrogenated	61788-32-7		IOELV	2	19	5	48	2017/2398/EU

#### Notation

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)

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### Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	8.38 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	83.8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
DNEL	46.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	2.5 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - systemic effects
DNEL	25 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - local effects
DNEL	27.8 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
DNEL	0.3 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.001 mg/l	aquatic organisms	water	intermittent release
PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	10.3 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	3.16 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.316 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.631 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Use safety goggles with side protection (EN 166).

#### Skin protection

Protective clothing (EN 340).

#### - hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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.

#### - 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. Wash hands thoroughly after handling.

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### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Breathing apparatus only in case of aerosol or mist formation.

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid
Colour	light yellow
Odour	characteristic

#### Other safety parameters

pH (value)	not determined
Melting point/freezing point	<-24 °C
Initial boiling point and boiling range	360 °C at 1,000 mbar
Flash point	175 °C (DIN EN ISO 2719)
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapour pressure	no measured value at 20 °C
Density	1,008 kg/m <sup>3</sup> at 20 °C
Vapour density	this information is not available

#### Solubility(ies)

- water solubility	insoluble
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#### Partition coefficient

- n-octanol/water (log KOW)	>6.5 (Supplier)
- soil organic carbon/water (log KOC)	5.5 (ECHA)

Auto-ignition temperature	370 °C (ASTM E 659)
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#### Viscosity

- kinematic viscosity	30.39 mm <sup>2</sup> /s at 40 °C
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Explosive properties	none
Oxidising properties	none

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

Oxidisers. Acids.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

Oxidisers. Reducing agents.

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity			
Exposure route	Endpoint	Value	Species
oral	LD50	>10,000 mg/kg	rat
inhalation: dust/mist	LC50	>4.7 mg/l/4h	rat
dermal	LD50	>2,000 mg/kg	rabbit

##### 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.

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### 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.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	>1,000 mg/l	rainbow trout ( <i>Oncorhynchus mykiss</i> )	96 h
EC50	>0.1 mg/l	daphnia magna	48 h
EC50	56 mg/l	aquatic plants	72 h

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion. The bioaccumulation potential is low.

n-octanol/water (log KOW)	>6.5 (Supplier)
BCF	2,000 (ECHA)

### 12.4 Mobility in soil

Data are not available.

The Organic Carbon normalised adsorption coefficient	5.5 (ECHA)
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### 12.5 Results of PBT and vPvB assessment

This substance / mixture contains components classified as either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

### 12.6 Other adverse effects

Data are not available.

#### Endocrine disrupting potential

Not listed.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself.

#### Relevant provisions relating to waste

List of wastes, Decision 2000/532/EC on the list of waste

13 03 08x Synthetic insulating and heat transmission oils  
13 03 10x Other insulating and heat transmission oils

#### Remarks


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

### SECTION 14: Transport information

- |      |   |  |
|------|---|--|
| 14.1 | <b>UN number</b>  | 3082   |
| 14.2 | <b>UN proper shipping name</b>  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.                          |
|      | Technical name  | Terphenyl, hydrogenated  |
| 14.3 | <b>Transport hazard class(es)</b>   |  |
|      | Class   | 9 (environmentally hazardous)  |
| 14.4 | <b>Packing group</b>  | III (substance presenting low danger)  |
| 14.5 | <b>Environmental hazards</b>  | hazardous to the aquatic environment   |
| 14.6 | <b>Special precautions for user</b>                                       |  |
|      |   | Provisions for dangerous goods (ADR) should be complied within the premises. |
| 14.7 | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b> |  |
|      |   | Not applicable.  |

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

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

- |                          |   |
|--------------------------|---|
| UN number                | 3082  |
| Proper shipping name     | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.                                 |
| Class                    | 9   |
| Classification code      | M6  |
| Packing group            | III   |
| Danger label(s)          | 9, fish and tree  |
|                          |  |
| Environmental hazards    | yes (hazardous to the aquatic environment)  |
| Special provisions (SP)  | 274, 335, 375, 601  |
| Excepted quantities (EQ) | E1  |

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Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90
Emergency Action Code	3Z
<b>International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class	9
Marine pollutant	yes (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	9, fish and tree
	
Special provisions (SP)	274, 335, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F
Stowage category	A
<b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Class	9
Environmental hazards	yes (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	9, fish and tree
	
Special provisions (SP)	A97, A158, A197
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 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)**  
**Restrictions according to REACH, Annex XVII**

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Dangerous substances with restrictions (REACH, Annex XVII)					
Name of substance	Name acc. to inventory	CAS No	Type of registration	Restriction	No
FRAGOL THERM 660	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		1907/2006/EC annex XVII	R3	3

### Legend

R3

- Shall not be used in:
  - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash-trays,
  - tricks and jokes,
  - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
- Articles not complying with paragraph 1 shall not be placed on the market.
- Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
  - can be used as fuel in decorative oil lamps for supply to the general public, and,
  - present an aspiration hazard and are labelled with R65 or H304,
- Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
- Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
  - lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
  - grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
  - lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
- No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
- Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

### List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Substance of Very High Concern (SVHC)			
Name acc. to inventory	CAS No	Listed in	Remarks
terphenyl, hydrogenated	61788-32-7	Candidate list	vPvB A57e

### Legend

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV  
vPvB A57e Very Persistent and very Bioaccumulative (article 57e)

### 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
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200 500	57)

### Notation

57) hazardous to the Aquatic Environment in category Chronic 2

## 15.2 Chemical Safety Assessment

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

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
1.2	Relevant identified uses: Professional use Industrial use Heat transfer fluids	Relevant identified uses: Professional use Industrial use Heat transfer fluids Plasticizer Solvents
1.4		Poison centre: change in the listing (table)
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
15.1		Substance of Very High Concern (SVHC): change in the listing (table)
15.1		2012/18/EU (Seveso III): change in the listing (table)
16	Disclaimer: This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.	Disclaimer: This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. FRAGOL cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
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 Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
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)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

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Abbr.	Descriptions of used abbreviations
IATA	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
IOELV	Indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
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 (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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 chapter 2 and 3)

Code	Text
H411	Toxic to aquatic life with long lasting effects.

### Disclaimer

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