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Safety data sheet

BASF Safety data sheet according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended from time to time.
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Product: **Vitamin A-Palmitate 1.6 Mio IU/G Feed**
(ID no. 30041042/SDS_GEN_GB/EN)
Date of print 13.10.2025

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

1.1. Product identifier

Vitamin A-Palmitate 1.6 Mio IU/G Feed

UFI: 1KNY-30XE-M00J-UKA9

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

Relevant identified uses: feed additive(s)

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Contact address:
BASF plc
4th and 5th Floors, 2 Stockport Exchange
Railway Road, Stockport, SK1 3GG
UNITED KINGDOM

Telephone: +44 161 475 3000
E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Repr. 1B	H360D May damage the unborn child.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Pictogram:

Signal Word:
Danger

Hazard Statement:

H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.

Precautionary Statements (Response):

P308 + P313	IF exposed or concerned: Get medical attention.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazard determining component(s) for labelling: Retinyl palmitate, EN - Isomers of Retinyl palmitate; SoR_JP; CAS unknown

2.3. Other hazards

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

When finely distributed on porose material, self-ignition is possible.

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Preparation based on: Retinyl palmitate

dissolved in: Sunflower oil

stabilized with: 2,6-di-tert-Butyl-p-cresol

Hazardous ingredients (GHS)

Retinyl palmitate

Content (W/W): >= 75 % - <= 100 %	Repr. 1B (unborn child) Aquatic Chronic 4
CAS Number: 79-81-2 EC-Number: 201-228-5 REACH registration number: 01-2119480425-37	H360D, H413

2,6-di-tert-Butyl-p-cresol

Content (W/W): >= 1 % - < 3 %	Aquatic Acute 1 Aquatic Chronic 1
CAS Number: 128-37-0 EC-Number: 204-881-4 REACH registration number: 01-2119555270-46, 01-2119565113-46	M-factor chronic: 1 H400, H410

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
water spray, carbon dioxide, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture
Endangering substances: harmful vapours, carbon oxides
Advice: The substances/groups of substances mentioned can be released in case of fire. Burning produces harmful and toxic fumes.

5.3. Advice for fire-fighters
Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

SECTION 6: Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. Ensure adequate ventilation. Use personal protective clothing. Information regarding personal protective measures, see section 8.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater. Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. Methods and material for containment and cleaning up

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).
For large amounts: Dike spillage. Pump off product.
Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Wear suitable protective clothing and eye/face protection. Ensure thorough ventilation of stores and work areas. Keep container tightly sealed.

Protection against fire and explosion:
Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner. Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

Control of exposure and risk management measures

Emission factor air:	5 %
Emission factor water:	0.003 %
Emission factor soil:	0 %

Exposure estimate and reference to its source

Assessment method:	ECETOC TRA v2.0 Environment
Maximum amount of safe use:	66,000 kg/d
Remarks:	Risk from environmental exposure is driven by marine water.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from oxidants.

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect from air. Protect from the effects of light. Keep under nitrogen.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

128-37-0: 2,6-di-tert-Butyl-p-cresol
TWA value 10 mg/m3 (WEL/EH 40 (UK))
8001-21-6: Sunflower oil
TWA value 10 mg/m3 (WEL/EH 40 (UK)), Inhalable dust
TWA value 4 mg/m3 (WEL/EH 40 (UK)), Respirable dust

PNEC
Data refer to the lead substance

Components with PNEC

79-81-2: Retinyl palmitate
freshwater: 0.1 mg/l
marine water: 0.01 mg/l
intermittent release: 1 mg/l
sediment (freshwater): 595000 mg/kg
sediment (marine water): 5950000 mg/kg
soil: 2100000 mg/kg
STP: 10 mg/l

DNEL
Data refer to the lead substance

Components with DNEL

79-81-2: Retinyl palmitate
worker: Long-term exposure- systemic effects, dermal: 1.6 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:
Wear chemically resistant gloves in combination with 'basic' employee training.

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Store work clothing separately. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift.

Environmental exposure controls
Do not discharge product into the environment without control.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid, partially crystallized
Colour:	light yellow
Odour:	almost odourless
Odour threshold:	
	Not determined due to potential health hazard by inhalation.
pH value:	
	substance/mixture is non-soluble (in water)
Melting point:	approx. 26 °C

Boiling point:		
	The substance / product decomposes therefore not determined.	
Flash point:	approx. 194 °C Information based on the main component/s.	(ISO 2719)
Flammability:	not flammable	(derived from flash point)
Lower explosion limit:		
	For liquids not relevant for classification and labelling.	
Upper explosion limit:		
	For liquids not relevant for classification and labelling.	
Ignition temperature:	approx. 261 °C	(DIN EN 14522)
Vapour pressure:	0.01 mbar (100 °C)	
Density:	0.88 g/cm3 (20 °C)	
Relative vapour density (air):		
	not determined	
Solubility in water:	sparingly soluble (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):		
	not applicable for mixtures	
Self ignition:	Risk of self-ignition when a large surface area is produced due to fine dispersion.	
Thermal decomposition:	170 °C The values mentioned are those of the active ingredient.	
Viscosity, dynamic:	44 mPa.s (60 °C)	
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

9.2. Other information

Self heating ability:	not applicable, the product is a liquid
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
When finely distributed, self-ignition is possible.

10.4. Conditions to avoid
Temperature: > 60 °C
Disregard of the conditions mentioned may result in undesirable decomposition reactions.

10.5. Incompatible materials

Substances to avoid:
oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion.

Information on: Retinyl palmitate
Assessment of acute toxicity:
Virtually nontoxic after a single ingestion.

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Information on: Retinyl palmitate

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg (BASF-Test)
No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: 2,6-di-tert-Butyl-p-cresol

Experimental/calculated data:
LD50 rat (oral): > 2,930 mg/kg (OECD Guideline 401)
No mortality was observed.

LD50 rat (oral): 6,000 mg/kg (OECD Guideline 401)

Irritation

Assessment of irritating effects:
May cause slight irritation to the skin. Not irritating to the eyes.

Information on: Retinyl palmitate
Assessment of irritating effects:
Not irritating to the eyes. May cause slight irritation to the skin.

Respiratory/Skin sensitization

Assessment of sensitization:
Based on available data, the classification criteria are not met.

Information on: Retinyl palmitate
Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Germ cell mutagenicity

Assessment of mutagenicity:
In the majority of tests performed (microorganisms) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Information on: Retinyl palmitate
Assessment of mutagenicity:
In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:
Results from a number of long-term carcinogenity studies and short-term tests are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic. Literature data. No carcinogenic potential can be deduced from other studies with rats and mice.

Information on: Retinyl palmitate
Assessment of carcinogenicity:
Results from a number of long-term carcinogenity studies and short-term tests are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic. Literature data.

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment of carcinogenicity:
Based on available data, the classification criteria are not met. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity:
No applicable information available.

Information on: Retinyl palmitate
Assessment of reproduction toxicity:
No reliable data are available concerning reproduction toxicity.

Developmental toxicity

Assessment of teratogenicity:
May cause harm to the unborn child.

Information on: Retinyl palmitate
Assessment of teratogenicity:
May cause harm to the unborn child.

Specific target organ toxicity (single exposure)

Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on available data, the classification criteria are not met.

Information on: Retinyl palmitate
Assessment of repeated dose toxicity:
Repeated exposure to large quantities may affect certain organs.

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment of repeated dose toxicity:
The information available on the product provides no indication of toxicity on target organs after repeated exposure.

Aspiration hazard

No data available.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information on: Retinyl palmitate
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information on: Retinyl palmitate
Toxicity to fish:
LC50 (96 h) > 10,000 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: 2,6-di-tert-Butyl-p-cresol
Toxicity to fish:
LC0 (96 h) >= 0.57 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)
The statement of the toxic effect relates to the analytically determined concentration. Limit concentration test only (LIMIT test).

LC50 (96 h) 0.199 mg/l, Fish

Information on: Retinyl palmitate
Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna (Screening test, static)

The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: 2,6-di-tert-Butyl-p-cresol
Aquatic invertebrates:
EC0 (48 h) 0.48 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration.

EC50 (48 h) 0.31 mg/l, Daphnia magna

EC50 (48 h) 0.92 mg/l, Daphnia magna

EC50 (48 h) 0.78 mg/l, Zebra Mussel

Information on: Retinyl palmitate
Aquatic plants:
EC50 (72 h) 152.94 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Information on: 2,6-di-tert-Butyl-p-cresol
Aquatic plants:
EC50 (72 h) > 0.40 mg/l (growth rate), Scenedesmus subspicatus (Guideline 92/69/EEC, C.3, static)
The statement of the toxic effect relates to the analytically determined concentration.

No observed effect concentration (72 h) 0.4 mg/l (growth rate), Desmodesmus subspicatus (Guideline 92/69/EEC, C.3)

Assessment of terrestrial toxicity:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

Information on: Retinyl palmitate
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

The product contains components with potential for bioaccumulation

Information on: Retinyl palmitate
Assessment bioaccumulation potential:
The product will not be readily bioavailable due to its consistency and insolubility in water. No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Information on: 2,6-di-tert-Butyl-p-cresol
Assessment bioaccumulation potential:
May be accumulated in organisms.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is expected.

Information on: Retinyl palmitate
Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification

12.6. Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information

Add. remarks environm. fate & pathway:
The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:
The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU): Listed in above regulation: no

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

15.2. Chemical Safety Assessment

Assessment of safe use has been performed for the mixture and the result is documented in section 7 and 8 of the SDS

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Skin Corr./Irrit. 3
Repr. 1B (unborn child)
Aquatic Acute 3
Aquatic Chronic 3

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Repr.	Reproductive toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Aquatic Acute	Hazardous to the aquatic environment - acute
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.