

# Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.04.2023

Version: 3.0

Product: **Dry Vitamin A-Palmitate 500**

(ID no. 30041047/SDS\_GEN\_00/EN)

Date of print 12.10.2025

## 1. Identification

### Product identifier

## Dry Vitamin A-Palmitate 500

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

Relevant identified uses: Vitamin

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

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Skin Corr./Irrit. 3

Repr. 1B (unborn child)

Aquatic Acute 2

Aquatic Chronic 2

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

## Label elements

### Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H316	Causes mild skin irritation.
H360	May damage the unborn child.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

P308 + P313	IF exposed or concerned: Get medical attention.
P391	Collect spillage.
P332 + P313	If skin irritation occurs: Get medical attention.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

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

### According to UN GHS criteria

The product is under certain conditions capable of dust explosion.

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## 3. Composition/Information on Ingredients

### Substances

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Not applicable

**Mixtures**Chemical naturePreparation based on: Retinyl palmitate  
500 000 I.U./g

embedded in: carbohydrates, Gelatins

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

Hazardous ingredients (GHS)

According to UN GHS criteria

## Retinyl palmitate

Content (W/W): $\geq 25\%$ - $< 50\%$	Skin Corr./Irrit. 3
CAS Number: 79-81-2	Repr. 1B (unborn child)
EC-Number: 201-228-5	Aquatic Chronic 4
	H316, H360, H413

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

Content (W/W): $\geq 1\%$ - $< 3\%$	Aquatic Acute 1
CAS Number: 128-37-0	Aquatic Chronic 1
EC-Number: 204-881-4	M-factor chronic: 1
	H400, H410

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

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**4. First-Aid Measures****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, consult an eye specialist.

On ingestion:

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

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**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

**Indication of any immediate medical attention and special treatment needed**

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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**5. Fire-Fighting Measures****Extinguishing media**

Suitable extinguishing media:

dry powder, carbon dioxide, water spray, foam

Unsuitable extinguishing media for safety reasons:

water spray

Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

**Special hazards arising from the substance or mixture**

carbon oxides, harmful vapours

The substances/groups of substances mentioned can be released in case of fire. Evolution of fumes/fog. Dust explosion hazard.

**Advice for fire-fighters**

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Cool endangered containers with water-spray. 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.

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**6. Accidental Release Measures**

Dust can form an explosive mixture with air.

**Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing. Information regarding personal protective measures, see section 8. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust.

**Environmental precautions**

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

**Methods and material for containment and cleaning up**

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up. Collect waste in suitable containers, which can be labeled and sealed.

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Dispose of absorbed material in accordance with regulations. Avoid raising dust. Cleaning operations should be carried out only while wearing breathing apparatus.

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## 7. Handling and Storage

### Precautions for safe handling

Avoid dust formation. Provide exhaust ventilation. This product may cause irritations; wash your hands after every contact.

Protection against fire and explosion:

Avoid dust formation. The product is capable of dust explosion. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Use explosion-proof apparatus and fittings.

### Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Aluminium

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.

### 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.

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## 8. Exposure Controls/Personal Protection

### Control parameters

#### Components with occupational exposure limits

57-50-1: Sucrose

128-37-0: 2,6-di-tert-Butyl-p-cresol

9000-70-8: Gelatins

9005-25-8: Starch

9087-61-0: Starch, hydrogen octenylbutanedioate, aluminum salt

### Exposure controls

#### Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:

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.

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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. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. 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. Store work clothing separately.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form:	free flowing fine granules	
Colour:	light yellow	
Odour:	not applicable	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	5,5 (10 %(m), 20 °C)	
melting range:	The substance / product decomposes therefore not determined.	
Boiling point:	not applicable	
Flash point:	not applicable, the product is a solid	
Evaporation rate:	The product is a non-volatile solid.	
Flammability:	not highly flammable	(UN Test N.1 (ready combustible solids))
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Vapour pressure:	not applicable	

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Density:	No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.
Relative vapour density (air):	not applicable, The product is a non-volatile solid.
Solubility in water:	dispersible (35 - 40 °C)
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures
Thermal decomposition:	> 160 °C (DSC (DIN 51007)) self-accelerating reaction
Viscosity, kinematic:	
Explosion hazard:	not applicable, the product is a solid Product is not explosive, however a dust explosion could result from an air / dust mixture.
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.

### Other information

Burning rate:	The material doesn't meet the criteria specified in paragraph 33.2.4.4 of UN manual of tests and criteria. An ignition of the test substance does not lead to a propagation by burning with flame or smouldering.	(UN Test N.1 (ready combustible solids))
Self heating ability:	It is not a substance capable of spontaneous heating according to UN transport regulations class 4.2.	(UN Test N.4 (self heating substances))
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Minimum ignition energy:	The product is capable of dust explosion.	(VDI 2263, sheet 1, 2.5)
Bulk density:	approx. 600 kg/m <sup>3</sup>	

## 10. Stability and Reactivity

### Reactivity

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

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

### Chemical stability

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

### Possibility of hazardous reactions

Dust explosion hazard.

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**Conditions to avoid**

Avoid heat. Avoid light. Avoid dust formation. Avoid all sources of ignition: heat, sparks, open flame.  
See SDS section 7 - Handling and storage.

**Incompatible materials**

Substances to avoid:  
atmospheric moisture, atmospheric oxygen

**Hazardous decomposition products**

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

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**11. Toxicological Information****Information on toxicological effects**Acute toxicity

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

Irritation

Assessment of irritating effects:  
Not irritating to the eyes. Skin contact causes slight irritation.

*Information on: Retinyl palmitate*  
*Experimental/calculated data:*  
*Skin corrosion/irritation rabbit: Irritant. (BASF-Test)*

*Skin corrosion/irritation rabbit: Slightly irritating. (OECD Guideline 404)*  
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*Information on: Retinyl palmitate*  
*Experimental/calculated data:*  
*Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)*  
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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.*  
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Germ cell mutagenicity



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Assessment of mutagenicity:

Based on the ingredients, there is no suspicion of a mutagenic effect.

*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.*  
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### Carcinogenicity

Assessment of carcinogenicity:

The whole of the information assessable provides no indication of a carcinogenic effect.

*Information on: Retinyl palmitate**Assessment of carcinogenicity:**Results from a number of long-term carcinogenicity 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:**The whole of the information assessable provides no indication of a carcinogenic effect.*  
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### Reproductive toxicity

Assessment of reproduction toxicity:

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

### Developmental toxicity

Assessment of teratogenicity:

The substance caused malformations/developmental toxicity in laboratory animals.

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

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#### Aspiration hazard

No aspiration hazard expected.

#### Other relevant toxicity information

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

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## 12. Ecological Information

### Toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

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

*Toxicity to fish:*

*LC0 (96 h)  $\geq$  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).*

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*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.*

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*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.*

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

*Microorganisms/Effect on activated sludge:*

*EC0 (3 h) 1.000 mg/l, activated sludge (DIN EN ISO 8192-OECD 209-88/302/EEC, P. C, aerobic)*

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### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):

Product is not expected to be readily biodegradable.

*Information on: Retinyl palmitate*

*Assessment biodegradation and elimination (H<sub>2</sub>O):*

*Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.*

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

*Assessment biodegradation and elimination (H<sub>2</sub>O):*

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*Not readily biodegradable (by OECD criteria). Poorly biodegradable.*  
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*Information on: Retinyl palmitate*

*Elimination information:*

*40 - 50 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, domestic)*

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

*Elimination information:*

*4,5 % BOD of the ThOD (28 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge)*  
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## **Bioaccumulative potential**

Assessment bioaccumulation potential:

No data available.

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

*Bioaccumulation potential:*

*Bioconcentration factor: 330 - 1.800 (28 d), Cyprinus carpio (OECD Guideline 305 C)*

*Bioconcentration factor: 230 - 2.500 (56 d), Cyprinus carpio (OECD Guideline 305 C)*  
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## **Mobility in soil**

Assessment transport between environmental compartments:

Volatility: No data available.

*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.*  
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## **Other adverse effects**

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

## **Additional information**

Other ecotoxicological advice:

The product has not been tested. The statement has been derived from the properties of the individual components.

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## 13. Disposal Considerations

### Waste treatment methods

Observe national and local legal requirements.

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## 14. Transport Information

### Land transport

ADR

UN number or ID number: UN3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(2,6-DI-TERT-BUTYL-P-CRESOL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

RID

UN number or ID number: UN3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(2,6-DI-TERT-BUTYL-P-CRESOL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

### Inland waterway transport

ADN

UN number or ID number: UN3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(2,6-DI-TERT-BUTYL-P-CRESOL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

### Transport in inland waterway vessel

Not evaluated

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**Sea transport**

## IMDG

UN number or ID number: UN 3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(2,6-DI-TERT-BUTYL-P-CRESOL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Marine pollutant: YES  
Special precautions for user: EmS: F-A; S-F

**Air transport**

## IATA/ICAO

UN number or ID number: UN 3077  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(2,6-DI-TERT-BUTYL-P-CRESOL)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

**Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

**Further information**

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 kg or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2:10.2.7; IATA: A197; TDS: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

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**15. Regulatory Information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

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## 16. Other Information

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

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

Skin Corr./Irrit.	Skin corrosion/irritation
Repr.	Reproductive toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H316	Causes mild skin irritation.
H360	May damage the unborn child.
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.

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.

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Vertical lines in the left hand margin indicate an amendment from the previous version.