

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

### 1.1 Product identifier

#### Trade name/designation

241-086-002 PAS 08 (dif. colors)  
CHING-PAS-SHS-SINGLE COAT  
COMPONENT I 100-150 µm

UFI: 36DC-G33Q-E008-YTSF

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

#### Relevant identified uses

Corrosion Protection and Industrial Coatings.

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

#### Supplier

CHEMISCHE INDUSTRIE ERLANGEN GMBH  
Rathenastr. 18 Telephone: +49 9131 3006-0  
91052 Erlangen E-mail: info@ching-coatings.com  
Germany Website: https://www.ching-coatings.com

#### Department responsible for information

E-mail (competent person) msds@ching-coatings.com

### 1.4 Emergency telephone number

Emergency telephone number: +49 9131 3006 91  
Only available during office hours.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Skin Sens. 1 H317 May cause an allergic skin reaction.  
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

#### Hazard pictograms



GHS07 GHS09

#### Signal word

Warning

#### Hazard statements

H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.  
P280 Wear protective gloves and eye protection/face protection.  
P391 Collect spillage.

#### Hazard components for labelling

bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane  
Diethyl fumarate  
Polyethylene glycol, ether with 4-hydroxy-2,2,6,6-tetra-methyl-1-piperidineethanol  
tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate

#### Supplemental hazard information

not applicable

### 2.3 Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.  
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### SECTION 3: Composition/information on ingredients.

#### 3.2 Mixtures

##### Description

Polyurethane coating, component I

##### Hazardous ingredients

CAS No. EC No. Index No.	Substance name REACH No. Classification according to Regulation (EC) No 1272/2008 [CLP]	% [mass]
136210-30-5 429-270-1 607-521-00-8	<b>tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate</b> 01-0000017556-64 Skin Sens. 1 H317 / Aquatic Chronic 3 H412 ATE (dermal): > 2,000 mg/kg ATE (oral): > 2,000 mg/kg ATE (inhalative): > 4.224 mg/L (4 h)	15,0 < 20,0
136210-32-7 412-060-9 607-350-00-9	<b>bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane</b> 01-0000015937-58 Skin Sens. 1 H317 / Aquatic Chronic 3 H412 ATE (oral): > 2,000 mg/kg ATE (dermal): > 2,000 mg/kg ATE (inhalative): > 4.224 mg/L (4 h)	10,0 < 12,5
7779-90-0 231-944-3 030-011-00-6	<b>trizinc bis(orthophosphate)</b> 01-2119485044-40 Aquatic Acute 1 H400 / Aquatic Chronic 1 H410 ATE (oral): > 5,000 mg/kg ATE (inhalative): > 5.7 mg/L (4 h)	5,00 < 7,00
1330-20-7 215-535-7 601-022-00-9	<b>o-xylene</b> 01-2119488216-32 Flam. Liq. 3 H226 / Asp. Tox. 1 H304 / Acute Tox. 4 H312 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Acute Tox. 4 H332 / STOT SE 3 H335 / STOT RE 2 H373 / Aquatic Chronic 3 H412 ATE (dermal): = 12,126 mg/kg ATE (oral): = 3,523 mg/kg ATE (dermal): = 1,100 mg/kg ATE (inhalative): = 27,571 mg/L (4 h)	3,00 < 5,00
123-86-4 204-658-1 607-025-00-1	<b>n-butyl acetate</b> 01-2119485493-29 Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066 ATE (dermal): > 2,000 mg/kg ATE (dermal): = 14,112 mg/kg ATE (oral): > 10,760 mg/kg ATE (inhalative): > 21 mg/L (4 h)	3,00 < 5,00
108-65-6 203-603-9 607-195-00-7	<b>2-methoxy-1-methylethyl acetate</b> 01-2119475791-29 Flam. Liq. 3 H226 / STOT SE 3 H336 ATE (dermal): > 5,000 mg/kg ATE (oral): = 8,532 mg/kg ATE (inhalative): > 23.8 mg/L (4 h)	3,00 < 5,00
623-91-6 210-819-7 -	<b>Diethyl fumarate</b> Acute Tox. 4 H302 / Skin Irrit. 2 H315 / Skin Sens. 1 H317 / STOT SE 3 H335	1,00 < 2,00
59535-09-0 611-848-1 -	<b>Polyethylene glycol, ether with 4-hydroxy-2,2,6,6-tetra-methyl-1-piperidineethanol</b> 01-2119491304-40 Skin Sens. 1 H317	1,00 < 2,00
398475-96-2 - -	<b>1,2-ethanediamine polymer with aziridine</b> Eye Irrit. 2 H319 / Aquatic Chronic 2 H411 ATE (oral): > 5,000 mg/kg	1,00 < 2,00
1314-13-2 215-222-5 030-013-00-7	<b>zinc oxide</b> 01-2119463881-32 Aquatic Acute 1 H400 (M = 1,00 ) / Aquatic Chronic 1 H410 (M = 1,00 )	0,100 < 0,150

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ATE (oral): = 7,950 mg/kg ATE (oral): > 15,000 mg/kg ATE (inhalative): > 5.7 mg/L (4 h)	
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**Remark**

Full text of H- and EUH-statements: see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

In all cases of doubt, or when symptoms persist, seek medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice.

#### Following inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

#### Following skin contact

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners. Wash contaminated clothing before reuse.

#### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

#### Self-protection of the first aider

First aider: Pay attention to self-protection!

### 4.2 Most important symptoms and effects, both acute and delayed

#### Symptoms

In all cases of doubt, or when symptoms persist, seek medical advice.

### 4.3 Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), Powder, spray mist, (water)

#### Unsuitable extinguishing media

Strong water jet

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

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

#### Hazardous combustion products

Hazardous combustion products: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, smoke, Nitrogen oxides (NO<sub>x</sub>).

### 5.3 Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

## SECTION 6: Accidental release measures

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

Remove all sources of ignition. Ventilate affected area. Do not breathe vapours.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

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

#### For containment

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

**For cleaning up**

Clean using cleansing agents. Do not use solvents.

**6.4 Reference to other sections**

Safe handling: see section 7

Personal protection equipment: refer to section 8

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advices on safe handling**

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities.

Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Use only spark proof tools.

Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. Personal protection equipment: see section 8.

Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

**Additional information**

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**Advices on general occupational hygiene**

When using do not eat, drink or smoke.

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

**Requirements for storage rooms and vessels**

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Access only for authorised persons. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

**Hints on joint storage**

Keep away from strongly acidic and alkaline materials as well as oxidizers.

**Storage class**

LGK10 - Combustible liquids that cannot be assigned to any of the above storage classes

**Further information on storage conditions**

Take care of instructions on label. Protect from heat and direct sunlight. Smoking is forbidden. Remove all sources of ignition. Keep container tightly closed. Store carefully closed containers upright to prevent any leaks.

**7.3 Specific end use(s)**

Observe technical data sheet.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

\* **Occupational exposure limit values**

CAS No.	Substance name	Source	Long-term /short-term (peak limitation)
108-65-6	2-methoxy-1-methylethyl acetate	WEL	274 / 548 ( - ) mg/m <sup>3</sup> (may be absorbed through the skin)
14807-96-6	Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	WEL	1 / - ( - ) mg/m <sup>3</sup> (respirable fraction)
1330-20-7	o-xylene	WEL	220 / 441 ( - ) mg/m <sup>3</sup> (may be absorbed through the skin)

**Additional information**

Long-term: Long-term occupational exposure limit value

short-term: short-term occupational exposure limit value

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**Biological limit values**

CAS No.	Substance name	Source	Value/ Test material
1330-20-7	o-xylene	BMGV	650 mmol/mol creatinine / urine end of exposure or end of shift

**DNEL worker**

CAS No.	Substance name	DNEL type	DNEL value
108-65-6	2-methoxy-1-methylethyl acetate	DNEL long-term dermal (systemic)	153.5 mg/kg
108-65-6	2-methoxy-1-methylethyl acetate	DNEL long-term inhalative (systemic)	275 mg/m <sup>3</sup>
136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	DNEL long-term dermal (systemic)	11.9 mg/kg
136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	DNEL long-term inhalative (systemic)	84 mg/m <sup>3</sup>
136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	DNEL acute inhalative (systemic)	672 mg/m <sup>3</sup>
123-86-4	n-butyl acetate	DNEL acute inhalative (local)	960 mg/m <sup>3</sup>
123-86-4	n-butyl acetate	DNEL long-term dermal (systemic)	7 mg/kg
123-86-4	n-butyl acetate	DNEL long-term inhalative (local)	300 mg/m <sup>3</sup>
123-86-4	n-butyl acetate	DNEL long-term inhalative (systemic)	48 mg/m <sup>3</sup>
123-86-4	n-butyl acetate	DNEL acute inhalative (systemic)	960 mg/m <sup>3</sup>
1330-20-7	o-xylene	DNEL acute dermal, short-term (local)	289 mg/kg
1330-20-7	o-xylene	DNEL acute dermal, short-term (systemic)	289 mg/kg
1330-20-7	o-xylene	DNEL long-term dermal (systemic)	180 mg/kg
1330-20-7	o-xylene	DNEL long-term inhalative (systemic)	77 mg/m <sup>3</sup>
136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	DNEL long-term dermal (systemic)	4 mg/kg
136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	DNEL long-term inhalative (systemic)	28 mg/m <sup>3</sup>
136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	DNEL acute inhalative (systemic)	112 mg/m <sup>3</sup>
7779-90-0	trizinc bis(orthophosphate)	DNEL long-term dermal (systemic)	83 mg/kg
7779-90-0	trizinc bis(orthophosphate)	DNEL long-term inhalative (systemic)	5 mg/m <sup>3</sup>
1314-13-2	zinc oxide	DNEL long-term dermal (systemic)	83 mg/kg
1314-13-2	zinc oxide	DNEL long-term inhalative (systemic)	5 mg/m <sup>3</sup>

**PNEC**

CAS No.	Substance name	PNEC type	PNEC Value
108-65-6	2-methoxy-1-methylethyl acetate	PNEC aquatic, intermittent release	6.35 mg/L
108-65-6	2-methoxy-1-methylethyl acetate	PNEC sewage treatment plant (STP)	100 mg/L
108-65-6	2-methoxy-1-methylethyl acetate	PNEC sediment, marine water	0.329 mg/kg
108-65-6	2-methoxy-1-methylethyl acetate	PNEC sediment, freshwater	3.29 mg/kg

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*	108-65-6	2-methoxy-1-methylethyl acetate	PNEC aquatic, freshwater	0.635 mg/L
	108-65-6	2-methoxy-1-methylethyl acetate	PNEC aquatic, marine water	0.0635 mg/L
	108-65-6	2-methoxy-1-methylethyl acetate	PNEC soil, freshwater	0.29 mg/kg
	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	PNEC sewage treatment plant (STP)	31.1 mg/L
	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	PNEC sediment, marine water	0.021 mg/kg
*	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	PNEC aquatic, freshwater	0.0001 mg/L
	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	PNEC sediment, freshwater	0.21 mg/kg
	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	PNEC soil, freshwater	0.1 mg/kg
	123-86-4	n-butyl acetate	PNEC aquatic, intermittent release	0.36 mg/L
	123-86-4	n-butyl acetate	PNEC sewage treatment plant (STP)	35.6 mg/L
*	123-86-4	n-butyl acetate	PNEC sediment, marine water	0.0981 mg/kg
	123-86-4	n-butyl acetate	PNEC soil, freshwater	0.09 mg/kg
	123-86-4	n-butyl acetate	PNEC sediment, freshwater	0.981 mg/kg
	123-86-4	n-butyl acetate	PNEC aquatic, freshwater	0.18 mg/L
	123-86-4	n-butyl acetate	PNEC aquatic, marine water	0.018 mg/L
	1330-20-7	o-xylene	PNEC aquatic, intermittent release	0.327 mg/L
	1330-20-7	o-xylene	PNEC sewage treatment plant (STP)	6.58 mg/L
	1330-20-7	o-xylene	PNEC sediment, marine water	12.46 mg/kg
	1330-20-7	o-xylene	PNEC sediment, freshwater	12.46 mg/kg
	1330-20-7	o-xylene	PNEC aquatic, freshwater	0.327 mg/L
	1330-20-7	o-xylene	PNEC aquatic, marine water	0.327 mg/L
	1330-20-7	o-xylene	PNEC soil, freshwater	2.31 mg/kg
	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	PNEC sewage treatment plant (STP)	31.1 mg/L
	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	PNEC sediment, marine water	0.021 mg/kg
*	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	PNEC aquatic, freshwater	0.0001 mg/L
	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	PNEC sediment, freshwater	0.21 mg/kg
	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	PNEC soil, freshwater	0.1 mg/kg
	7779-90-0	trizinc bis(orthophosphate)	PNEC sewage treatment plant (STP)	100 mg/L
	7779-90-0	trizinc bis(orthophosphate)	PNEC sediment, marine water	56.5 mg/kg
	7779-90-0	trizinc bis(orthophosphate)	PNEC sediment, freshwater	117.8 mg/kg
	7779-90-0	trizinc bis(orthophosphate)	PNEC aquatic, freshwater	20.6 mg/L
	7779-90-0	trizinc bis(orthophosphate)	PNEC aquatic, marine water	6.1 mg/L
	7779-90-0	trizinc bis(orthophosphate)	PNEC soil, freshwater	35.6 mg/kg

## 8.2 Exposure controls

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

### Personal protection equipment

#### Respiratory protection

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be

used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

#### **Hand protection**

For prolonged or repeated handling the following glove material must be used:

Suitable material: NBR (Nitrile rubber)  
Thickness of the glove material  $\geq$  0.4 mm  
Breakthrough time  $\geq$  480 min

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. Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin.

Recommended glove articles: EN ISO 374

#### **Skin protection**

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Eye glasses with side protection: EN 166

#### **Body protection**

When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. Anti-static clothing including shoes are recommended.

#### **Remark**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

#### **Environmental exposure controls**

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Physical state	Liquid
Colour	green
Odour	characteristic
pH at 20 °C	not determined
Melting point/freezing point	-76 °C
	Source: n-butyl acetate
Initial boiling point and boiling range	127 °C
Flash point	66 °C
flammability	not applicable
Lower explosion limit at 20°C	1 Vol-%
	Source: o-xylene
Upper explosion limit at 20°C	10.8 Vol-%
	Source: 2-methoxy-1-methylethyl acetate
Vapour pressure at 20°C	0.9 mbar
Relative vapour density	not applicable
Density at 20 °C	1.6 kg/l
Water solubility at 20°C	practically insoluble
Partition coefficient: n-octanol/water	see section 12
Auto-ignition temperature	315 °C
	Source: 2-methoxy-1-methylethyl acetate
Decomposition temperature	not determined
Kinematic viscosity at 20 °C	15 - 25 DIN-6-Sek.
Dynamic viscosity at 20 °C	15 - 25 DIN-6-Sek.
Viscosity	> 60s / 4mm
particle characteristics	not applicable

## 9.2 Other information

Solid content	87.3 %
solvent content	12.4 %
Water content	0 %

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

### 10.2 Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

### 10.3 Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

### 10.4 Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

### 10.5 Incompatible materials

No further relevant information available.

### 10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### \* Acute toxicity

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

#### **1,2-ethanediamine polymer with aziridine**

LD50: oral (Rat): > 5,000 mg/kg

#### **2-methoxy-1-methylethyl acetate**

LD50: dermal (Rat): > 5,000 mg/kg

LD50: oral (Rat): = 8,532 mg/kg; (OECD 401)

LC50: inhalative (Rat): > 23.8 mg/L (4 h)

#### **bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane**

LD50: oral (Rat): > 2,000 mg/kg

LD50: dermal (Rat): > 2,000 mg/kg

LC50: inhalative (Rat): > 4.224 mg/L (4 h)

#### **n-butyl acetate**

LD50: dermal (Rabbit): > 2,000 mg/kg

LD50: dermal (Rat): = 14,112 mg/kg; (OECD 402)

LD50: oral (Rat): > 10,760 mg/kg; (OECD 423)

LC50: inhalative (Rat): > 21 mg/L (4 h); (OECD 403)

#### **o-xylene**

LD50: dermal (Rabbit): = 12,126 mg/kg

LD50: oral (Rat): = 3,523 mg/kg; (OECD 423)

LD50: dermal (Rat): = 1,100 mg/kg

LC50: inhalative (Rat): = 27,571 mg/L (4 h)

#### **tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate**

LD50: dermal (Rat): > 2,000 mg/kg

LD50: oral (Rat): > 2,000 mg/kg

LC50: inhalative (Rat): > 4.224 mg/L (4 h); (OECD 403)

**trizinc bis(orthophosphate)**

LD50: oral (Rat): > 5,000 mg/kg

LC50: inhalative (Rat): > 5.7 mg/L (4 h)

**zinc oxide**

LD50: oral (Mouse): = 7,950 mg/kg

LD50: oral (Rat): > 15,000 mg/kg

LC50: inhalative (Rat): > 5.7 mg/L (4 h)

**Skin corrosion/irritation**

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

**Serious eye damage/eye irritation**

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

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**Overall assessment on CMR properties**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**Practical experience/human evidence**

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: Headache, Dizziness, fatigue, amyosthenia, Dizziness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxic to aquatic life with long lasting effects.

**n-butyl acetate**

EC10: (*Pseudomonas putida*): = 956 mg/L (18 h)

**o-xylene**

EC50 < 1,000 mg/L (15 h)

**tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate**

EC50 = 3,110 mg/L (3 h)

**Algae toxicity**

**1,2-ethanediamine polymer with aziridine**

ErC50: (*Pseudokirchneriella subcapitata*): > 1 mg/L (72 h)

**bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane**

ErC50: (*Scenedesmus subspicatus*): = 113 mg/L (72 h)

**n-butyl acetate**

ErC50: (*Scenedesmus quadricauda*): = 675 mg/L (72 h)

**o-xylene**

ErC50: (*Scenedesmus subspicatus*): < 100 mg/L (72 h)

Method: OECD 201

**tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate**  
ErC50: (*Scenedesmus subspicatus*): = 113 mg/L (72 h)

**trizinc bis(orthophosphate)**  
ErC50: > 100 mg/L

**zinc oxide**  
ErC50: (*Scenedesmus subspicatus*): = 58.8 mg/L (72 h)

***Daphnia* toxicity**

**2-methoxy-1-methylethyl acetate**  
EC50 (*Daphnia magna* (Big water flea)): = 500 mg/L (48 h)

**bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane**  
EC50 = 88.6 mg/L (48 h)

**n-butyl acetate**  
EC50 (*Daphnia magna* (Big water flea)): = 44 mg/L (48 h)

**o-xylene**  
EC50 (*Daphnia magna* (Big water flea)): > 100 mg/L (48 h)  
Method: OECD 202

EC50 (*Daphnia magna* (Big water flea)): < 165 mg/L (48 h)

**tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate**  
EC50 (*Daphnia magna* (Big water flea)): = 88.6 mg/L (48 h)

**trizinc bis(orthophosphate)**  
EC50 (*Daphnia magna* (Big water flea)): > 1,000 mg/L (48 h)

**zinc oxide**  
EC50 (*Daphnia magna* (Big water flea)): > 100 mg/L (48 h)

***Fish* toxicity**

**1,2-ethanediamine polymer with aziridine**  
LC50: (*Oncorhynchus mykiss* (Rainbow trout)): = 8 mg/L (96 h)

**2-methoxy-1-methylethyl acetate**  
LC50: (*Pimephales promelas* (fathead minnow)): = 161 mg/L (96 h)

**bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane**  
LC50: (*Danio rerio* (zebrafish)): = 66 mg/L (96 h)

**n-butyl acetate**  
LC50: (*Danio rerio* (zebrafish)): > 64 mg/L (96 h)

**o-xylene**  
LC50: (*Oncorhynchus mykiss* (Rainbow trout)): < 100 mg/L (96 h)  
Method: OECD 203

LC50: (*Oncorhynchus mykiss* (Rainbow trout)): = 14 mg/L (96 h)

**tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate**  
LC50: (*Danio rerio* (zebrafish)): = 66 mg/L (96 h)  
Method: OECD 203

**trizinc bis(orthophosphate)**  
LC50: (*Oncorhynchus mykiss* (Rainbow trout)): > 1,000 mg/L (96 h)  
LC50: > 5,000 mg/L (96 h)

**zinc oxide**  
LC50: (*Danio rerio* (zebrafish)): > 10,000 mg/L (96 h)

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6 Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7 Other adverse effects

No information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product/Packaging disposal

Do not empty into drains; dispose of this material and its container in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

##### Waste codes/waste designations according to EWC/AVV

080111\* - Waste paint and varnish containing organic solvents or other dangerous substances

\* Hazardous waste according to Directive 2008/98/EC (waste framework directive).

##### Other disposal recommendations

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

### SECTION 14: Transport information

#### 14.1 UN number or ID number

UN 3082

#### 14.2 UN proper shipping name

##### Land transport (ADR/RID)

Environmentally hazardous substance, liquid, n.o.s. (trizinc bis(orthophosphate), zinc oxide)

##### Sea transport (IMDG)

Environmentally hazardous substance, liquid, n.o.s. (contains trizinc bis(orthophosphate), zinc oxide)

##### Air transport (ICAO-TI / IATA-DGR)

Environmentally hazardous substance, liquid, n.o.s. (contains trizinc bis(orthophosphate), zinc oxide)

#### 14.3 Transport hazard class(es)

Land transport (ADR/RID) 9

Sea transport (IMDG) 9

Air transport (ICAO-TI / IATA-DGR) 9

#### 14.4 Packing group

Land transport (ADR/RID) III

Sea transport (IMDG) III

Air transport (ICAO-TI / IATA-DGR) III

#### 14.5 Environmental hazards

Land transport (ADR/RID) ENVIRONMENTALLY HAZARDOUS

Sea transport (IMDG) Marine pollutant / trizinc bis(orthophosphate)

#### 14.6 Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

#### 14.7 Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

#### 14.8 Additional information

##### Land transport (ADR/RID)

Tunnel restriction code: -

Limited quantity (LQ): 5 ltr

Hazard identification number (Kemler No.): 90

##### Sea transport (IMDG)

EmS-No.: F-A S-F

Limited quantity (LQ): 5 ltr

##### Air transport (ICAO-TI / IATA-DGR)

**Safety Data Sheet**  
**according to Regulation (EC) No. 1907/2006 (REACH)**  
**according to Regulation (EU) 2020/878**



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Limited quantity (LQ): 30 Liter  
in packages <= 5 litres: unadapted

## SECTION 15: Regulatory information

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

#### EU legislation

##### Authorisations and/or restrictions on use

##### Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Use restriction according to REACH annex XVII, no.: 03, 40

##### Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

##### Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

\* VOC value: 203 g/l

##### Directive 2004/42/EC on the limitation of emissions of volatile organic compounds

VOC limit value: 2004/42/IIA(j): 500 g/l (2010)

Maximum VOC content of the product in a ready to use condition: 179 g/L

This product meets the requirements of Regulation (EC) No. 1935/2004 on the limitation of VOC content.

\* **Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]**

##### Hazard categories / Named dangerous substances

E2 Hazardous to the aquatic environment in Category Chronic 2

Quantity 1: 200t; Quantity 2: 500t

\* **National regulations**

Observe in addition any national regulations!

##### Water hazard class

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### List of relevant hazard statements and/or precautionary statements from sections 2 to 15

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

### Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Skin Sens. 1	Calculation method.
Aquatic Chronic 2	Calculation method.

### Key literature references and sources for data

Data arise from reference works and literature.

### Abbreviations and acronyms

**Safety Data Sheet**  
**according to Regulation (EC) No. 1907/2006 (REACH)**  
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ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
OEL: Occupational Exposure Limit Value  
BLV: Biological limit values  
CAS: Chemical Abstracts Service  
CLP: Classification, Labelling and Packaging  
CMR: Carcinogenic, Mutagenic and Reprotoxic  
DIN: German Institute for Standardization / German industrial standard  
DNEL: Derived No-Effect Level  
EAKV: European Waste Catalogue Directive  
EC: Effective Concentration  
EC: European Community  
EN: European Standard  
EU/EEA: European Economic Area  
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations  
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
ICAO-TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG Code: International Maritime Code for Dangerous Goods  
ISO: International Organization for Standardization  
LC: Lethal Concentration  
LD: Lethal Dose  
:  
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
OECD: Organisation for Economic Cooperation and Development  
PBT: persistent, bioaccumulative, toxic  
PNEC: Predicted No Effect Concentration  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail  
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals  
UN: United Nations  
VOC: Volatile Organic Compounds  
vPvB: very persistent and very bioaccumulative

**Indication of changes**

\* Data changed compared with the previous version.  
replaces version: 6.2  
replaces revision of: 13 Mar 2026