

Safety Data Sheet according to Regulation (EC) No 1907/2006

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sds no. : 170270
V005.1

Fertan

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

1.1. Product identifier

Fertan

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

Intended use:

Passivating agent

1.3. Details of the supplier of the safety data sheet

FERTAN GmbH

Saar Lor lux Str. 14

66115 Saarbrücken

Phone: +49 681 71046

Fax-no.: +49 681 71048

verkauf@fertan.de

1.4. Emergency telephone number

During normal opening hours: Tel: 49 681 71046

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

Classification (DPD):

Xi - Irritant

R38 Irritating to skin.

R41 Risk of serious damage to eyes.


N - Dangerous for the
environment

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67 Vapours may cause drowsiness and dizziness.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:		
Signal word:	Danger	
Hazard statement:	H315 Causes skin irritation. H318 Causes serious eye damage. H411 Toxic to aquatic life with long lasting effects.	
Precautionary statement:	P261 Avoid breathing mist/vapours. P280 Wear protective gloves/eye protection.	
Precautionary statement:	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
Response	P310 Immediately call a POISON CENTER or doctor/physician.	

Label elements (DPD):

Xi - Irritant

N - Dangerous for the environment

**Risk phrases:**

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67 Vapours may cause drowsiness and dizziness.

Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39 Wear suitable gloves and eye/face protection.

2.3. Other hazards

None if used properly.

SECTION 3: Composition/information on ingredients
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Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Propan-2-ol 67-63-0	200-661-7 01-2119457558-25	5- 15 %	Flammable liquids 2 H225 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H336
1-Ethoxypropan-2-ol 1569-02-4	216-374-5 01-2119462792-32	1- 5 %	Flammable liquids 3 H226 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H336
Phosphoric acid 7664-38-2	231-633-2 01-2119485924-24	1- 5 %	Corrosive to metals 1 H290 Skin corrosion 1B H314
Zinc nitrate 7779-88-6	231-943-8	2,5- 5 %	Oxidizing solids 2 H272 Acute toxicity 4; Oral H302 Skin irritation 2; Dermal H315 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3; Inhalation H335 Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment 1 H400, H410
zinc bis(dihydrogen phosphate) 13598-37-3	237-067-2 01-2119485974-19	1- 5 %	Acute toxicity 4; Ingestion H302 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 2 H411
Tannins 1401-55-4	215-753-2	10- 25 %	Skin irritation 2; Dermal H315 Serious eye irritation 2 H319 Chronic hazards to the aquatic environment 3 H412

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Propan-2-ol 67-63-0	200-661-7 01-2119457558-25	5 - 15 %	Xi - Irritant; R36 F - Highly flammable; R11 R67
1-Ethoxypropan-2-ol 1569-02-4	216-374-5 01-2119462792-32	1 - 5 %	R67 R10
Phosphoric acid 7664-38-2	231-633-2 01-2119485924-24	1 - 5 %	C - Corrosive; R34
Zinc nitrate 7779-88-6	231-943-8	2,5 - 5 %	Xn - Harmful; R22 Xi - Irritant; R36/37/38 N - Dangerous for the environment; R50/53 O - Oxidizing; R8
zinc bis(dihydrogen phosphate) 13598-37-3	237-067-2 01-2119485974-19	1 - 5 %	Xn - Harmful; R22 N - Dangerous for the environment; R50
Tannins 1401-55-4	215-753-2	10 - 25 %	Xi - Irritant; R36/38 R52/53

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

Immediately remove soiled or soaked clothing.

Rinse with running water and soap.

In case of adverse health effects seek medical advice.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remains (intensive smarting, sensivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in fires.
phosphorus oxides
carbon oxides.

5.3. Advice for firefighters

Wear protective equipment.
Put on breathing apparatus.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.
Do not allow to enter the ground / soil.

6.3. Methods and material for containment and cleaning up

Take up with liquid-absorbing material (sand).
Wash away residue with plenty of water.
Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid skin and eye contact.
Use only in well-ventilated areas.

Hygiene measures:

The workplace should be equipped with an emergency shower and eye-rinsing facility.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container.
Store in a cool, well-ventilated place.

7.3. Specific end use(s)

Passivating agent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient	ppm	mg/m ³	Type	Category	Remarks
Propan-2-ol 67-63-0	200	500	AGW:	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Propan-2-ol 67-63-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
1-Ethoxypropan-2-ol 1569-02-4			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
1-Ethoxypropan-2-ol 1569-02-4			Skin designation:	Can be absorbed through the skin.	TRGS 900
1-Ethoxypropan-2-ol 1569-02-4	50	220	AGW:	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
ORTHOPHOSPHORIC ACID 7664-38-2		1	Time Weighted Average (TWA):	Indicative	ECTLV
ORTHOPHOSPHORIC ACID 7664-38-2		2	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Orthophosphoric acid 7664-38-2		2	AGW:	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Orthophosphoric acid 7664-38-2			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Propan-2-ol 67-63-0	aqua (freshwater)					140,9 mg/L	
Propan-2-ol 67-63-0	aqua (marine water)					140,9 mg/L	
Propan-2-ol 67-63-0	sediment (freshwater)				552 mg/kg		
Propan-2-ol 67-63-0	sediment (marine water)				552 mg/kg		
Propan-2-ol 67-63-0	soil				28 mg/kg		
Propan-2-ol 67-63-0	aqua (intermittent releases)					140,9 mg/L	
Propan-2-ol 67-63-0	STP					2251 mg/L	
Propan-2-ol 67-63-0	oral					160 mg/kg food	
1-Ethoxypropan-2-ol 1569-02-4	aqua (freshwater)					10 mg/L	
1-Ethoxypropan-2-ol 1569-02-4	aqua (marine water)					1 mg/L	
1-Ethoxypropan-2-ol 1569-02-4	aqua (intermittent releases)					10 mg/L	
1-Ethoxypropan-2-ol 1569-02-4	STP					1250 mg/L	
1-Ethoxypropan-2-ol 1569-02-4	sediment (freshwater)				37,6 mg/kg		
1-Ethoxypropan-2-ol 1569-02-4	sediment (marine water)				3,76 mg/kg		
1-Ethoxypropan-2-ol 1569-02-4	soil				2,4 mg/kg		
1-Ethoxypropan-2-ol 1569-02-4	oral				142 mg/kg		
Zinc bis(dihydrogen phosphate) 13598-37-3	aqua (marine water)					6,1 µg/L	
Zinc bis(dihydrogen phosphate) 13598-37-3	STP					52 µg/L	
Zinc bis(dihydrogen phosphate) 13598-37-3	sediment (freshwater)				117,8 mg/kg		
Zinc bis(dihydrogen phosphate) 13598-37-3	sediment (marine water)				56,5 mg/kg		
Zinc bis(dihydrogen phosphate) 13598-37-3	soil				35,6 mg/kg		
Zinc bis(dihydrogen phosphate) 13598-37-3	aqua (freshwater)					20,6 µg/L	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Propan-2-ol 67-63-0	worker	Dermal	Long term exposure - systemic effects		888 mg/kg bw/day	
Propan-2-ol 67-63-0	worker	inhalation	Long term exposure - systemic effects		500 mg/m3	
Propan-2-ol 67-63-0	general population	Dermal	Long term exposure - systemic effects		319 mg/kg bw/day	
Propan-2-ol 67-63-0	general population	inhalation	Long term exposure - systemic effects		89 mg/m3	
Propan-2-ol 67-63-0	general population	oral	Long term exposure - systemic effects		26 mg/kg bw/day	
1-Ethoxypropan-2-ol 1569-02-4	worker	inhalation	Acute/short term exposure - systemic effects		500 mg/m3	
1-Ethoxypropan-2-ol 1569-02-4	worker	Dermal	Long term exposure - systemic effects		74 mg/kg bw/day	
1-Ethoxypropan-2-ol 1569-02-4	worker	inhalation	Long term exposure - systemic effects		211 mg/m3	
1-Ethoxypropan-2-ol 1569-02-4	general population	inhalation	Acute/short term exposure - systemic effects		300 mg/m3	
1-Ethoxypropan-2-ol 1569-02-4	general population	Dermal	Long term exposure - systemic effects		44,3 mg/kg bw/day	
1-Ethoxypropan-2-ol 1569-02-4	general population	inhalation	Long term exposure - systemic effects		127 mg/m3	
1-Ethoxypropan-2-ol 1569-02-4	general population	oral	Long term exposure - systemic effects		14 mg/kg bw/day	
Orthophosphoric acid 7664-38-2	worker	inhalation	Long term exposure - local effects		1 mg/m3	
Orthophosphoric acid 7664-38-2	general population	inhalation	Long term exposure - local effects		0,73 mg/m3	
Orthophosphoric acid 7664-38-2	worker	inhalation	Acute/short term exposure - local effects		2 mg/m3	
Zinc bis(dihydrogen phosphate) 13598-37-3	worker	Dermal	Long term exposure - systemic effects		8,3 mg/kg	
Zinc bis(dihydrogen phosphate) 13598-37-3	worker	inhalation	Long term exposure - systemic effects		1 mg/m3	
Zinc bis(dihydrogen phosphate) 13598-37-3	general population	Dermal	Long term exposure - systemic effects		8,3 mg/kg	
Zinc bis(dihydrogen phosphate) 13598-37-3	general population	inhalation	Long term exposure - systemic effects		1 mg/m3	
Zinc bis(dihydrogen phosphate) 13598-37-3	general population	oral	Long term exposure - systemic effects		0,83 mg/kg	

Biological Exposure Indices:

Ingredient	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Propan-2-ol 67-63-0	acetone	Blood	Sampling time: End of shift.	25 mg/l	DE BAT		
Propan-2-ol 67-63-0	acetone	Urine	Sampling time: End of shift.	25 mg/l	DE BAT		

8.2. Exposure controls:**Respiratory protection:**

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter. This recommendation should be matched to local conditions.

Hand protection:

Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Polychloroprene (CR; ≥ 1 mm thickness) or natural rubber (NR; ≥ 1 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polychloroprene (CR; ≥ 1 mm thickness) or natural rubber (NR; ≥ 1 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Protective goggles

Skin protection:

Suitable protective clothing

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	liquid clear dark brown, up to, black
Odour threshold	No data available / Not applicable
pH ()	1,4 - 2,0
Initial boiling point	No data available / Not applicable
Flash point	92 °C (197.6 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density (20 °C (68 °F))	1,165 - 1,175 g/cm ³
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (20,0 °C (68 °F))	fully miscible
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with oxidants.

Reacts with acids: Heat released.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if used according to specifications.

10.5. Incompatible materials

See section reactivity

10.6. Hazardous decomposition products

None if used for intended purpose.

In case of fire toxic gases can be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects**General toxicological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

The classification is based on an expert judgement with regard to existing specifications of the substances, the base/acid reserve and from In Vitro experiments.

Oral toxicity:

Acute oral toxicity: LD50 > 2000 mg/kg body weight (calculated).

Inhalative toxicity:

High concentration of vapour may be irritating.

Skin irritation:

Causes skin irritation.

Eye irritation:

Causes serious eye damage.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LD50	5.338 mg/kg	oral		rat	
Phosphoric acid 7664-38-2	LD50	3.500 mg/kg	oral		rat	
zinc bis(dihydrogen phosphate) 13598-37-3	LD50	300 - 2.000 mg/kg	oral		rat	OECD Guideline 423 (Acute Oral toxicity)
zinc bis(dihydrogen phosphate) 13598-37-3	Acute toxicity estimate (ATE)	500 mg/kg				Expert judgement

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LC50	72,6 mg/l	inhalation	4 h	rat	
Phosphoric acid 7664-38-2	LC50	1,689 mg/l	inhalation	1 h	rabbit	

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LD50	12.870 mg/kg	dermal		rabbit	
zinc bis(dihydrogen phosphate) 13598-37-3	LD50	> 2.000 mg/kg	dermal		rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Propan-2-ol 67-63-0	slightly irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Phosphoric acid 7664-38-2	corrosive	24 h	rabbit	
zinc bis(dihydrogen phosphate) 13598-37-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Propan-2-ol 67-63-0	moderately irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
1-Ethoxypropan-2-ol 1569-02-4	Category II		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Propan-2-ol 67-63-0	not sensitising	Buehler test	guinea pig	
Phosphoric acid 7664-38-2	not sensitising	no data	human	
zinc bis(dihydrogen phosphate) 13598-37-3	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Propan-2-ol 67-63-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
zinc bis(dihydrogen phosphate) 13598-37-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
zinc bis(dihydrogen phosphate) 13598-37-3	negative	intraperitoneal		mouse	

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Propan-2-ol 67-63-0	NOAEL=1500	inhalation	13 weeks 6 hours/day, 5 days/week	mouse	
Phosphoric acid 7664-38-2	NOAEL=250 mg/kg	oral: gavage	6 w once a day	rabbit	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
zinc bis(dihydrogen phosphate) 13598-37-3	NOAEL=31,52 mg/kg	oral: feed	13 weeks daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

SECTION 12: Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

Contains phosphate, may fertilize watercourses.

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Other adverse effects:

In case of discharge of acid or alkali products in sewage treatment plants observe that their PH-value does not pass 5.5-9.5, PH-alterations may cause disturbances in biological plants. Follow the local instructions.

The product contains wastewater-relevant heavy metals. Officially determined threshold values for wastewater (also for partial flows, if applicable) and local discharge guidelines must be observed.

12.1. Toxicity**Ecotoxicity:**

Toxic to aquatic life with long lasting effects.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Propan-2-ol 67-63-0	LC50	9.640 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Propan-2-ol 67-63-0	EC50	13.299 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Propan-2-ol 67-63-0	NOEC	1.000 mg/l	Algae	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	> 1.000 mg/l	Algae	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propan-2-ol 67-63-0	NOEC	30 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Phosphoric acid 7664-38-2	LC50	> 100 mg/l	Fish			OECD Guideline 203 (Fish, Acute Toxicity Test)
Phosphoric acid 7664-38-2	EC50	> 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phosphoric acid 7664-38-2	NOEC	100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	> 100 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Zinc nitrate 7779-88-6	LC50	7800 µg/l	Fish	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Zinc nitrate 7779-88-6	IC50	0,136 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC	0,024 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
zinc bis(dihydrogen phosphate) 13598-37-3	LC50	780 µg/l	Fish	96 h	Pimephales promelas	
zinc bis(dihydrogen phosphate) 13598-37-3	EC50	330 - 660 µg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
zinc bis(dihydrogen phosphate) 13598-37-3	NOEC	24 µg/l	Algae	3 d	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	IC50	136 µg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tannins 1401-55-4	LC50	37 mg/l	Fish	96 h	Gambusia affinis	OECD Guideline 203 (Fish, Acute Toxicity Test)

12.2. Persistence and degradability

Persistence and degradability:

Degradation of surfactants

Due to its application field, the product is not subject to the EU Detergent Regulation (EC/648/2004)

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
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Propan-2-ol 67-63-0	readily biodegradable	aerobic	70 - 84 %	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
1-Ethoxypropan-2-ol 1569-02-4	readily biodegradable	aerobic	98 - 100 %	EU Method C.4-B (Determination of the "Ready" Biodegradability Modified OECD Screening Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Propan-2-ol 67-63-0	0,05					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
Propan-2-ol 67-63-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1-Ethoxypropan-2-ol 1569-02-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Phosphoric acid 7664-38-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Recommended cleaning agents

Clean the packaging with water.

SECTION 14: Transport information
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14.1. UN number

ADR	3082
RID	3082
ADNR	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc nitrate)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc nitrate)
ADNR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc nitrate)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc nitrate)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Zinc nitrate)

14.3. Transport hazard class(es)

ADR	9
	9
RID	9
	9
ADNR	9
	9
IMDG	9
	9
IATA	9
	9

14.4. Packaging group

ADR	III
RID	III
ADNR	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADNR	not applicable
IMDG	Marine pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADNR	not applicable
IMDG	IMDG-Code: Segregation group 1- Acids, Segregation group 7 - Heavy metals and their salts
IATA	not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content 25,5 %
(1999/13/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK: WGK = 3, highly water endangering product. Classification according to the mixture rules in German VwVwS regulation annex 4 from 27 July 2005.

Storage class according to TRGS 510: 10

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

R10 Flammable.
R11 Highly flammable.
R22 Harmful if swallowed.
R34 Causes burns.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R36/38 Irritating to eyes and skin.
R50 Very toxic to aquatic organisms.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R67 Vapours may cause drowsiness and dizziness.
R8 Contact with combustible material may cause fire.
H225 Highly flammable liquid and vapor.
H226 Flammable liquid and vapor.
H272 May intensify fire; oxidizer.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
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.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.