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

1.1. Product identifier

Chemical name	**Zinc phosphide, techn.**
Index No	015-006-00-9
EC No	215-244-5
CAS No	1314-84-7
CIPAC No	69
REACH registration number	The active substance is defined in Article 15, paragraph 1 of Regulation (EC) No 1907/2006 (REACH regulation) as registered

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

1.2.1. Relevant identified uses

Use descriptor category:

Life cycle stage (LCS)	M: Manufacture of Plant Protection Products
Sectors of use	SU1: Agriculture
Technical function	Rodenticidal active substance

1.2.2. Uses advised against

not known

1.3. Details of the supplier of the safety data sheet

Chemische Fabrik Wülfel GmbH & Co. KG
Hildesheimer Straße 305, D-30519 Hannover, Germany
phone number.: 0049 511 98496-0, fax number: 0049 511 98406-40
email address of the person responsible for Safety Data Sheet: cfw@wuelfel.de
Web: www.wuelfel.de

1.4. Emergency telephone number

Members of the public seeking specific information on poisons should contact (24h and 7 days emergency call):
in England and Wales: phone number.: 111
in Scotland, phone number.: 08454 24 24 24 (NHS 24)
in Republic of Ireland, phone number.: 01 809 2166

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification of the substance according to Regulation (EC) No 1272/2008 (CLP/GHS)

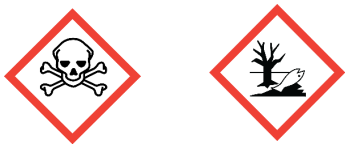
The harmonized classification is given in the Table 2 in subsection 3.1.
On the basis of the physico-chemical and toxic properties of Zinc phosphide (s. DAR Zinc phosphide) arises the following classification under considering the note T in Table 3 of Annex VI of the CLP Regulation:
Acute Tox. 2, H300
Acute Tox. 3, H311
Aquatic Acute 1, H400
Aquatic Chronic 1, H410
M=100

2.2. Label elements

2.2.1. Label elements according to Regulation (EC) No 1272/2008 (CLP/GHS)

Risk-determining substance for labelling:
Zinc phosphide (Trizinc diphosphide), Zinc oxide,Trizinc bis(orthophosphate)

Hazard pictograms



GHS06 **GHS09**

Signal word: Danger

Hazard statements:
H300: Fatal if swallowed.
H311: Toxic in contact with skin.
H410: Very toxic to aquatic life with long lasting effects.

Supplemental Hazard information (EU):
EUH032: Contact with acids liberates very toxic gas.

Precautionary statements:

Prevention:
P270: Do no eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves / protective clothing / eye protection / face protection.

Reaction:
P362+P364: Take off contaminated clothing and wash before reuse.
P335 + P334: Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/…

Storage:
P402 + P404: Store in a dry place. Store in a closed container.

Disposal:
P501: Dispose of contents/container in accordance with section 13 of the waste feed.

2.3. Other hazards

The compound does not meet the PBT / vPvB criteria as an inorganic substance according to Annex XIII of the REACH Regulation.
There is no evidence of endocrine disrupting properties of zinc phosphide according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.
See also sub-section 15.1.2.

SECTION 3: Composition/information on ingredients

3.1. Substances

Table 1 Chemical characterization of the components and details of their content:

Active substance				
Characterization	**Index No**	**EG No**	**CAS No**	**Content (% w/w)**
$Zn_3 P_2$ Zinc phosphide IUPAC: Trizinc diphosphide REACH Registration No: The active substance is considered as registered in accordance with Article 15 para. 1 of Regulation (EC) No 1907/2006.	015-006-00-9	215-244-5	1314-84-7	≥ 80.00
Impurities				
Characterization	**Index No**	**EG No**	**CAS No**	**Content (% w/w)**
ZnO Zinc oxide IUPAC: Zinc monoxide REACH Registration No: 01-2119463881-32	030-013-00-7	215-222-5	1314-13-2	≤ 20
$Zn_3 (PO_4)_2$ Zinc phosphate IUPAC: Trizinc bis(orthophosphate) REACH Registration No: 01-2119485044-40	030-011-00-6	231-944-3	7779-90-0	≤ 5

Table 2 Harmonised classification of the active substance and its impurities according to Tab. 3, Annex VI, of the CLP Regulation:

Active substance/impurity	**Harmonised classification**
Zinc phosphide (Trizinc diphosphide)	Water-react. 1, H260 [1)] Acute Tox. 2 *, H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 M=100 * Minimum classification
Zinc oxide (Zinc monoxide)	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Zinc phosphate (Trizinc bis(orthophosphate))	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

[1)] Take notice of note T in Table 3 of Annex VI of the CLP Regulation.
The examination of zinc phosphide with the test method A.12 FLAMMABILITY (CONTACT WITH WATER) of Regulation (EC) No 440/2008 or Test N.5: Test method for substances which in contact with water emit flammable gases, Manual of Tests and Criteria, Recommendations on the transport of Dangerous Goods (ST/SG/AC.10/11/Rev.6, Sixth revised edition, 2015) not supports the specified harmonized classification (Note the different classification in Section 2.1.1 compared to harmonized classification).

3.2. Mixtures

There is no mixture.

3.2. Additional information

The text of H statements, which was not mentioned in this section, s. section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

4.1.1. General informations

If any symptoms occur, particularly if there is any known contamination:

- Stop work
- Remove contaminated clothing
- Wash exposed skin and hair
- Call doctor at once and show him the label or the Health and Safety Data Sheet.
- Remove patient to fresh air, prevent all exertion and loosen tight or restrictive clothing. Persons attending victims of poisoning should avoid contact with heavily contaminated clothing and vomit. Wear impervious gloves whilst decontaminating skin and hair. Always seek medical attention in cases of serious contamination.

4.1.2. In case of eye contact

Immediately irrigate thoroughly with clean water for at least 15 minutes, including under eyelids. Seek medical attention.

4.1.3. In case of skin contact

Remove contaminated clothing immediately and wash affected areas with soap and water. Seek medical attention.

4.1.4. Following ingestion

If conscious, wash out mouth with water. Do not induce vomiting. Seek medical attention.

4.1.5. Following inhalation of powder or gas

Remove from exposure and bring patient to fresh air; rest and keep warm. Oxygen or artificial respiration if needed. Pay close attention to breathing, and seek medical attention.

4.1.6. Self-protection of the First Aider

Contact with residual endogenous substance to avoid.

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

If swallowed, stomach acid is releasing hydrogen phosphide (phosphane). The poisoning symptoms can occur after a long latency period. A respiratory paralysis may occur in rare cases even after 24 hours.

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

After inhalation:

Monitor circulation, lung, liver and kidney function.

After ingestion:

Immediately administer 0.1 % potassium permanganate or copper sulphate solution and permit vomiting, following gastric lavage. All poisoning cases should be treated in a clinic with intensive care facilities (in case of respiratory paralysis after 24 - 48 hrs).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: carbon dioxide, dry sand, fire extinguisher class C

Unsuitable extinguishing media: water, foam

5.2. Special hazards arising from the substance or mixture

In contact with acids forming hydrogen phosphide which can ignite.

5.3. Advice for firefighters

In closed rooms may form an explosive phosphine/air-mixture in contact with acids.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Respiration:
respirator with B2-P2 combination filter;
Eyes:
goggles, face-shield
Hands:
Chemical protective gloves (EN 374) made of nitrile rubber or chloroprene rubber.
Other:
protective suit or coveralls and apron, rubber boots
Avoid dust formation in confined areas. Wear suitable personal protective equipment.

6.2. Environmental precautions

Avoid contaminating watercourses. Inform local authority if the material enters drains, rivers or sewers, and Environment Agency if it enters surface or ground waters.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Contain opened packages in suitable marked containers of a similar material and close securely.

6.3.2. For cleaning up

After spillage or leakage: Use personal protective equipment. Contain opened packages in containers of a similar material and close securely. Clean up straightaway by gentle sweeping, scoop or vacuum. Avoid creating dust clouds. Do not flush with water. Shovel into suitable marked container for disposal and close securely.

6.4. Reference to other sections

See sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

7.1.1. Protective measures

See handling precautions in subsection 2.2.1!

Fire and explosion prevention:
Avoid dust formation. Prevent electrostatic charge – source of ignition should be kept well clear – fire extinguishers should be kept handy. Dust can form an explosive mixture (aerosol) with air.

7.1.2. Advice on general occupational hygiene

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.
Keep away food drink and animal feeding stuffs.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage temperature: -5 ° C to +30 ° C.
Take notice of TRGS 510 "Storage of hazardous substances in non-stationary containers".
Do not store with strong oxidizing agents and acids.
Storage class (LGK): 6.1B (acutely toxic non-flammable materials)
See Appendix 4 to the TRGS 510 (Storage of hazardous substances in non-stationary containers").

7.3. Specific end use

Active substance to make rodenticidal baits for the control of mice, rats and other mammalian pests.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit (OEL)

For dust of zinc phosphide no OEL is set.
General limit for dust (TRGS (Technical Rules for Hazardous Substances) 900):
Inhalable fraction (I dust): 10 mg / m³ (TWA)
Respirable fraction (R dust): 1.25 mg / m³ (TWA)
OEL for hydrogen phosphide (IUPAC nomenclature: phosphane): 0.1 ppm (0.1ml / m^3 or 0.14 mg/m^3), s. Commission Directive 2006/15/EC of 7 February 2006.

8.1.2. DNEL/PNEC-Values

DNEL (systemic)
All figures are taken from REACH registration dossiers for zinc oxide and zinc phosphate, for zinc phosphide and hydrogen phosphide from DAR zinc phosphide.

Route	Substance	Worker	General population
Inhalation (Long time exposure)	Zinc phosphate	5 mg/m³ (insoluble zinc)	2.5 mg/m³ (insoluble zinc)
	Zinc oxide		
systemic	Zinc phosphide	A DNEL is not available. AOEL (systemic): 0.042 mg/kg bw/d	A DNEL is not available.
	Hydrogen phosphide	AOEL (systemic): 0.042 µg/l Luft (0.03 ppm) In Germany the OEL applies.	A DNEL is not available.
local	Zinc oxide	0.5 mg/m³	A DNEL is not available
Dermal (Long time exposure)	Zinc phosphate	83 mg/kg bw/day (insoluble zinc)	
	Zinc oxide		
Oral (Long time exposure)	Zinc phosphate	not sufficiently accurate data available	0.83 mg/kg bw/day (soluble or insoluble zinc)

PNEC
All figures are taken from REACH registration dossiers for zinc oxide and zinc phosphate and refer to the zinc ion concentration. The informations for zinc phosphide are taken from DAR Zinc phosphide.

Substance	Zinc phosphate	Zinc oxide	Zinc phosphide (read-across approach)
Freshwater	20.6* µg/l		
Seawater	6.1* µg/l		
Sediment (Freshwater)	117.8* mg/kg sediment dw		not sufficiently accurate data available
Sediment (Seawater)	56.5* mg/kg sediment dw		not sufficiently accurate data available
Soil	35.6* mg/kg soil dw		not sufficiently accurate data available

* The values contain the natural zinc ion concentration (so-called added values) present in the water, sediment or soil.

8.2. Exposure controls

8.2.1. Personal protective equipment

8.2.1.1. Eye / Face protection

Goggles with safety glasses with side-shield (EN 166), face-shield

8.2.1.2. Respiratory protection:

short time, filter type: B2- P2 combination filter

8.2.1.3. Skin protection

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other.

8.2.2. General health and safety measures

Avoid unnecessary contact with the product.
Wash hands after work, change contaminated clothing.
While using do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	Value / Description
Physical state	solid (powder)
Colour	gray-black
Odour	faint odour
Melting point/freezing point	> 500 ° C, according to EC test method A.1 (differential scanning calorimetry)
Boiling point or initial boiling point and boiling range	> 500 ° C, according to EC test method A.1 (differential scanning calorimetry)
Flammability	not highly flammable according to the criteria of EC test method A.10
Lower and upper explosion limit	see the comments on flammability
Flash point	not applicable, since a solid
Auto-ignition temperature	386 ° C, according to EC test method A.16
Decomposition temperature	> 500 ° C
pH	not determinable, since practically insoluble in water
Kinematic viscosity	not applicable, since a solid
Solubility	<1.4 µg / L, according to EC test method A.6 (column elution method)
Partition coefficient n-octanol/water (log value)	not determinable, since practically insoluble in water
Vapour pressure	< 10^{-5} hPa, according to EC test method A.4 (vapor pressure balance)
Density and/or relative density	4.51 g / cm³ at 20 °C, according to EC test method A.3 (air comparison pyknometer)
Bulk density	2.4 g / cm³ at 20 °C, determined by CIPAC Method MT 186
Relative vapour density	not determined, since vapor pressure too low
Particle characteristics	not determined

9.2. Other information

Decomposition with acids to very toxic phosphine (phosphane) and diphosphine (diphosphane). The latter ignites spontaneously on contact with atmospheric oxygen.
The lower explosive limit of phosphine is 1.79% by volume, the upper explosive limit at 100% vol. The ignition temperature is about 100 ° C.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with acids forming heat to very toxic hydrogen phosphide (phosphane) and diphosphane. The latter ignites spontaneously on contact with the air.
Contact with strong lyes may generate hydrogen phosphide (slowly) which can be ignited by heat, naked flame or sparks. The contact with oxidizing substances and the formation of dust should be avoided. The latter can be ignited by an open flame or spark.

10.2. Chemical stability

In the dry state or in a dry environment, the substance is stable.

10.3. Possibility of hazardous reactions

See sub-section 10.1.

10.4. Conditions to avoid

Contact with acids, strong lyes and oxidising agents should be avoided.

10.5. Incompatible materials

Acids, strong lyes, oxidising agents.

10.6. Hazardous decomposition products

With acids and strong lyes: hydrogen phosphide (phosphane) and diphosphane.
At very high temperatures, e.g. fires, may result from zinc phosphide phosphorus pentoxide which reacts with moisture and fire water to phosphoric acid.

SECTION 11: Toxicological information

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

11.1.1. Acute toxicity

Acute oral toxicity:

LD_{50} (oral, rat): 12 mg/kg body weight (DAR Zinc phosphide, November 2009)

Poisoning effect:

After oral intake, gastrointestinal pain.

Mode of action:

The stomach acid evolved from zinc phosphide hydrogen phosphide (phosphane). Hydrogen phosphide inhibits important enzyme systems and is a powerful metabolic and nervous toxin. This can lead to death through respiratory paralysis and collapse.
After high dose administration, low methemoglobin is seen, with consequential effects on heart, liver and kidney functions.

Acute dermal toxicity:

LD_{50} (dermal, rat): 525 mg/kg body weight (DAR Zinc phosphide, November 2009)

11.1.2. Skin corrosion/irritation

A corrosive effect of the skin was not found.

11.1.3. Serious eye damage/eye irritation

A serious eye damage / irritation was not observed.

11.1.4. Respiratory or skin sensitisation

There are currently no indications to this effect.

11.1.5. Germ cell mutagenicity

There are currently no indications to this effect.

11.1.6. Carcinogenicity

There are currently no indications to this effect.

11.1.7. Reproductive toxicity

There are currently no indications to this effect.

11.1.8. Specific target organ toxicity — single exposure

There are currently no indications to this effect.

11.1.9. Specific target organ toxicity — repeated exposure

There are currently no indications to this effect.

11.1.10. Aspiration hazard

There are currently no indications to this effect.

11.2 Information on other hazards

No informations are available.

SECTION 12: Ecological information

12.1. Toxicity

12.1.1. Acute aquatic toxicity

The values determined are taken from the DAR Zinc phosphide.
The EC_{40} (96h) value for the fish ide (*Leuciscus idus*) is 21.7 µg/L.
The EC_{50} (48h) value for the species *Daphnia magna* is 114 µg/L.
Following EC values for algae (*Scenedesmus subspicata*) were determined:
EC_{r50} (72h) = 3.75 µg/L
EC_{b50} (72h) = 8.21 µg/L
Note: The studies were performed with the maximum attainable concentration (MAC), in which the formation of a suspension was observed. Zinc phosphide is practically insoluble in water (<1.4 µg / L (20 ° C)), see also sub-section 9.1.

12.1.2. Chronic aquatic toxicity

The basis is the smallest measured NOEC for zinc ions in freshwater, to be used as the endpoint for the classification (algae-test).
NOEC (*Pseudokirchneriella subcapitata*) = 12.6 µg / L (species-averaged value)
PNEC (freshwater) = 20.6 µg / L (this PNEC is an added value, i.e. it is to be added to the zinc background in water)
Because of the toxicity to aquatic organisms do not contaminate ponds, waterways or ditches with chemical or used container.

12.2. Persistence and degradability

The oxidative degradation takes place to form harmless salts of phosphorous acid and phosphoric acid.

12.3. Bioaccumulative potential

Zinc phosphide is metabolized by oxidation in an aqueous environment to phosphates.
Thus, the potential for bioaccumulation is low.

12.4. Mobility in soil

Depends on the solubility of the phosphates from the soil formed.

12.5. Results of PBT and vPvB assessment

Not applicable to inorganic substances.

12.6. Endocrine disrupting properties

There is no evidence of endocrine disrupting properties of zinc phosphide according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

none

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

After pretreatment, the product must be supplied in accordance with the hazardous waste regulations to an approved hazardous waste landfill.

Do not dispose of the sewage system!

Waste disposal code: 06 13 01

Packaging:

The empty cans are to be rendered unusable for recycling purposes.

SECTION 14 : Transport information

14.1. UN number

UN1714

14.2. UN proper shipping name

ADR/RID/ IMDG-Code:

ZINC PHOSPHIDE

ICAO-TI/IATA-DGR:

Zinc phosphide

14.3. Transport hazard class(es)

6.1 (Toxic substances)

Note: The specified hazard class 4.3 in Chapter 3.2 (Dangerous Goods List, Table A) of ADR under the UN number 1714 does not apply to the substance and is therefore not part of the declaration. This approach is permitted under subsection 2.2.43.1.7 in conjunction with subsection 2.2.43.1.5 of ADR if the prescribed method of analysis yields a negative test result. On examination of the substance with the test method A.12 FLAMMABILITY (CONTACT WITH WATER) of Regulation (EC) No 440/2008, found no gas evolution. The test method A.12 corresponds to the test N.5 (Substances and preparations which in contact with water or damp air emit highly flammable gases in dangerous quantities) specified in subsection 33.4.1.4 in the Manual of Tests and Criteria, in Recommendations on the Transport of Dangerous Goods, Sixth revised edition, ST/SG/AC.10/11/Rev.6, 2015 (see also the note T in sections 2 and 3).

14.4. Packing group

I (Substances presenting high danger)

14.5. Environmental hazards

Labelling of environmentally hazardous substance

ADR/RID/ IMDG-Code/ICAO-TI/IATA-DGR: yes (see sub-sections 2.1.1 and 12.1)

Marine Pollutant: yes (see sub-sections 2.1.1 and 12.1 and Annex III of MARPOL)

14.6. Special precautions for user

Consult the sections 6-8, 10, and 12, respectively.

14.7. Maritime transport in bulk according to IMO instruments

Not relevant, substance is a solid.

14.8. Additional information

ADR Tunnel restriction code (E)

Transport by post: forbidden

SECTION 15: Regulatory information

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

15.1.1. EU regulations

Safety Data Sheet:

Regulation (EC) No 1907/2006 (REACH), Annex II (SDS), amended by Annex of Regulation (EU) 2020/878

Classification and labelling:

Regulation (EC) No 1272/2008 (CLP (EU-GHS) Regulation)

Crop protection:

Regulation (EC) No 1107/2009

Directive 2010/85/EU (Inclusion of Zinc phosphide in Annex I to Directive 91/414 / EEC)

Regulation (EU) No 540/2011, is amended by Regulation (EU) No 541/2011

(The active substance zinc phosphide is registered under No. 314 in the table of Part A of the Annex)

Seveso III

Directive 2012/18/EU

H2 ACUTE TOXIC (Category 2), E1 (Hazardous to the Aquatic Environment in Category Chronic 1)

Note: The hazard categories O2 (Substances and mixtures which in contact with water emit flammable gases, Category 1) and O3 (Substances or mixtures with hazard statement EUH029) should assigned on the basis of the harmonized classification (see Table 2 in subsection 3.1) but not in accordance with the classification in sub-section 2.1.1.

15.1.2. Basic national regulations (Germany)

Act for the protection of young people at work (JArbSchG)

Observe employment restrictions according to § 22 for teens.

Act for the protection of mothers at work, in education and in study (MuSchG)

Inadmissible activities and working conditions according to §§ 11 and 12 MuSchG for expectant and nursing mothers.

Act on protection against hazardous substances (Chemicals Act (ChemG))

Regulation on protection against hazardous substances (Hazardous Substances Regulation (GefStoffV))

Regulation on bans and restrictions on the marketing and delivery of certain substances, mixtures and products pursuant to the Chemicals Act (ChemVerbotsV)

Plant Protection Act (PflSchG)

Regulation on systems for handling water-polluting substances (AwSV) from April 18, 2017

Water hazard class: 3 (Code Number: 431, database Rigoletto)

The product is registered according to §16e ChemG at the Federal Institute for Risk Assessment (BfR). - The BfR product number is 0031193.

15.1.3. Other regulations (Germany)

Technical Rules for Hazardous Substances (TRGS):

TRGS 201 " Classification and labeling in activities involving hazardous substances "

TRGS 220 "National Aspects of Creating Safety Data Sheets"

TRGS 510 "Storage of hazardous substances in non-stationary containers"

TRGS 900 „Occupational Exposure Limits"

Leaflets of the German social accident insurance:
DGUV Regulation 1 (BGV A1) „Basics of Prevention “
DGUV Rule 100-001 (BGR A1) „Basics of Prevention “
DGUV Rule 112-190 (BGR 190) „Use of respiratory protective devices“
DGUV Rule 112-192 (BGR 192) „Eye and Face Protection“
DGUV Rule 112-195 (BGR 195) „ Protective gloves “
DGUV Information 212-007 (BGI 868) „Chemical protective gloves“

15.2. Chemical Safety Assessment:
DAR Zinc phosphide (November 2009).
This document fulfils all in the annex I of the REACH Regulation on the Chemical Safety Report (CSR) made requirements.

SECTION 16: Other information

16.1. Indication of changes
Complete revision of the SDS based on Regulation (EU) 2020/878.
Changes have been made in Sections 2, 8, 9, 11, 12, 14, 15, and 16.

16.2. Codes of hazard classes and hazard statements

a) Hazard classes and categories specified in sub-sections 2.1.1., and 3.1.

Water-react. 1	- Substance or mixrure which in contact with water emuts flammable gas, category 1
Acute Tox. 2	- Acute Toxicity, category 2
Acute Tox. 3	- Acute Toxicity, category 3
Aquatic Acute 1	- Hazardous to the aquatic environment, acute, category 1
Aquatic Chronic 1	- Hazardous to the aquatic environment, chronic, category 1

b) Hazard statements not specified in sub-section 3.1.
Regulation (EC) No. 1272/2008

H260	In contact with water releases flammable gases which may ignite spontaneously.
H300	Fatal if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.3. Literature and sources

Directives and Regulations
Regulation (EC) No 1107/2009, was last amended by Regulation (EU) 2021/383
Regulation (EG) Nr. 1907/2006 (REACH), was last amended by Regulation (EU) 2021/1297
CLP (EU-GHS)-Verordnung (EG) Nr. 1272/2008, was last amended by Regulation (EU) 2021/849
Regulation (EU) No 547/2011, was last amended by Regulation (EU) No 519/2013
Directive 2012/18/EU (Seveso III)

Zinc phosphide
Conclusion on the peer review of the pesticide risk assessment of the active substance zinc phosphide, EFSA Journal 2010; 8(7):1671.
(http://www.efsa.europa.eu/en/efsajournal/doc/1671.pdf)

Zinc und selected compounds
Risk Assessment Report on Zinc - Environmental Part
SCHER (Scientific Committee on Health and Environmental Risks), European Commission 2007
Zinc example - Data compilation, selection and derivation of PNEC values for the aquatic compartment (OECD Workshop on *Metals Specificities in Environmental Hazard Assessment* Paris, September 7-8, 2011, prepared by Patrick Van Sprang from ARCHE (Assessing Risks of Chemicals).

REACH registration dossiers

Zinc oxide (REACH Registration No 01-2119463881-32)

Zinc phosphate (REACH Registration No 01-2119485044-40)

16.4. Abbreviations and acronyms

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route - European arrangements about the international transport of dangerous goods on the streets
AOEL	Acceptable Operator Exposure Level
bw	body weight
CAS	Chemical Abstracts Service
CIPAC	Collaborative International Pesticides Analytical Council
CSR	Chemical Safety Report
DAR	Draft Assessment Report
DGUV	German social accident insurance (Deutsche Gesetzliche Unfallversicherung)
DNEL	Derived No Effect Level
dw	dry weight
EC	Effective concentration
EC_b	Effective concentration (Biomass)
EC_r	Effective concentration (Growth rate)
EFSA	European Food Safety Authority
EN	European norms
IATA-DGR	International Air Transport Association - Dangerous Goods Regulation
ICAO-TI	International Civil Aviation Organization - Technical Instructions
IMDG-Code	International Maritime Code for Dangerous Goods
IMO	International Maritime Organization
IUPAC	International Union of Pure and Applied Chemistry
LD	lethal dose
LC	lethal concentration
MARPOL	Maritime Pollution Convention
N.A.G.	Nicht anderweitig genannt
NOEC	No Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent, Bio-accumulative, Toxic
PVC	polyvinyl chloride
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation of Chemicals
RID	Règlement International concerante le transport des marchandises Dangereuses par chemins de fer - Regulation for the international transport of dangerous goods in the rail transport.
UN	United Nations
vPvB	very persistent and very bio-accumulative

16.5. Further information

This information is based on our present knowledge. They do not constitute an assurance of product properties and establishes no contract legal rights.