

SDS According to the REACH regulation 1907/2006/EC and CLP (GHS) regulation 1272/2008/EC.

1. IDENTIFICATION OF SUBSTANCE AND OF THE COMPANY

Trade name / Substance Name : ZINC PHOSPHATE PZ20/PZW2
(IUPAC : trizinc bis(orthophosphate))

REACH Registration number: 01-2119485044-40-0001

Type of use: anticorrosive pigment for: paints and inks (solid corrosive inhibitor), plants nutrient (fertilizer) (see section 16 and e-SDS).

Manufacturer : SOCIETE NOUVELLE DES COULEURS ZINCIQUES

Plant	Sales department
BP 59	45/49 Chaussée Jules César
59111 Bouchain	95250 Beauchamp
FRANCE	FRANCE

Tel : INT + 33.1.30.40.57.57
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Europe emergency contact: INT + 33 1 30 40 57 57 (France).
24-hour emergency number (USA) : 800 424 9300 (CHEMTREC - USA).
24-hour international emergency number : INT + 1 703 527 3887 (CHEMTREC - USA).

2. HAZARD IDENTIFICATION

2.1 Classification according to Regulation 1272/2008/EC [CLP/GHS]



Hazard pictogram:

Signal word:

Hazard statements: H410

WARNING

Very toxic to aquatic life with long lasting effects

Precautionary statements:

Prevention: P273

Avoid release to the environment

Response: P391

Collect spillage

Disposal: P501

Dispose of contents/ containers to be collected by a licensed contractor in accordance with national and local regulations.

Environmental Risks : The zinc phosphate substance is classified as very toxic to aquatic life Acute Category 1 and Chronic Category: Very toxic to aquatic life with long lasting effects.

2. HAZARD IDENTIFICATION (continued)

2.2 Classification according to Directive 67/548/EEC and 1999/45/EC

(Applicable up to 12/2010 for substances and 06/2015 for preparations):

Danger:



Dangerous for the environment.

N
R50/53

Environmental Risk : this substance is very toxic to aquatic organisms. It is highly recommended not to allow this product to enter the Environment. This product may cause long-term adverse effects in the environment.

3. COMPOSITION/DATA ON COMPONENTS

Chemical composition: Mono constituent substance, Trizinc bis(orthophosphate) hydrate
 $Zn_3(PO_4)_2, x H_2O$ $2 \leq x \leq 4$ (tetrahydrated = PZ20, dihydrated = PZW2)

Pigment: White 32 - **Colour Index:** 77964

REACH Registration number: 01-2119485044-40-0001

Hazardous components or impurities: (1) regulation 1272/2008/EC (2) directive 67/548/EEC

CAS N° Substance	Annex VI Index N°	EINECS N°	Name	%	Symbol	Phrases
7779-90-0	030-011-00-6	231-944-3	$Zn_3(PO_4)_2, x H_2O$	>97	GHS09 (1) N (2)	H400 H410 R50/53
Impurity						
1314-13-2	030-013-00-7	215-222-5	ZnO	[0-3]	GHS09 (1) N (2)	H400 H410 R50/53

4. FIRST AID AND MEASURES

Description of first aid measures: Get immediately medical attention.

Specific measure: no specific requirements.

After inhaling: remove from exposure area to fresh air. Seek medical attention.

After skin contact: wash with mild soap and water until no evidence of substance remains.

After eyes contact: immediately flush eyes with water for at least 15 min, until no evidence of chemical remains. Seek medical attention if necessary.

After ingestion: Rinse mouth with water. Immediately get medical attention. Treat symptomatically and supportively. This substance may induce intestinal troubles.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: no restriction for neighboring fire.

Special hazards arising from the substance or mixture: not flammable substance, this substance is very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment. Do not let this substance and its solutions contaminate the environment.

Advice for firefighters

Special personal protection equipment: wear an appropriate protective equipment and an appropriate air respirator.

Conduct of fire fighting: no specific requirement (not flammable fire retardant). Avoid creating dust under nuisance dust permitted limits. In case of fire, do not spill zinc phosphate, residues may contaminate the environment and have to be collected and stocked in special containers. Contaminated wastes have to be collected by a licensed contractor. Dike and contain fire-control water for later disposal. Do not let contaminated water contaminate the environment.

Additional information: contaminated residues/wastes must be collected by a licensed contractor for treatment or disposal.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: If dusting (upper permitted limits), dust mask with a high-efficiency particulate filter (FFP2 minimum) and with a full face-piece.

Environmental precautions: Do not sweep or wash in public stretches of water or unknown discharge, in respect with local regulations. To prevent dispersion on the floor and later in the environment, it is highly recommended to forbid walking on the product spillage. Do not discharge contaminated water in public sewage.

Methods and material for containment and cleaning up

Spill and leak procedure: Avoid/minimise residues and waste production according to local regulations. Use wet clean up technique to avoid dusting. Keep covered material in watertight and closed containers. Suck up avoiding dust (vacuum or wet device). Eliminate residues according to local regulations (dangerous waste).

Soil: Remove containers from spill area. In large spills, rescue must be in the same direction as the wind and prohibit the formation of dust clouds. Collect spills on the floor, eliminate waste according with national regulations.

Water: Not contaminate the environment. Seal the manhole sewer, prohibit access to water contaminated with this product in water systems and contain the water in area water resistant to removal by an authorized company

7. HANDLING AND STORAGE

Precautions for safe handling:

EC:

Handling : Avoid dust breathing and walking in the fallout of the product on the ground. Keep away from food stuff. Use adequate exhaust ventilation to maintain nuisance dust below permitted limits. Do not discharge contaminated water in public sewage.

Protection against fire and explosion : the product is non-flammable.

7. HANDLING AND STORAGE (continued)

Conditions for safe storage, including any incompatibilities:

Storage conditions: store under clean, dry conditions at room temperature. Keep containers tightly sealed.

Material/Chemical incompatibility: none. However, it is recommended to store this substance away from acids and ammonia (solubility in these solvents). Storage class (VCI, Germany): 13. Seveso II Directive applies if a total sum of 200 tons environmentally dangerous substances and preparations in production and storage is exceeded.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

PROFESSIONAL EXPOSURE CONTROL

EXPOSURE LIMIT VALUE (Occupational Exposure Limits) :

Engineering controls: no specific exposure limits established for substance (OSHA, ACGIH, NIOSH). Cf §7.

Parameters of exposure controls: Total dust

<u>Designation</u>	<u>Type of Data</u>	<u>Unit</u>
Total dust (no special effect)	ACGIH-91/93	
	TLV: TWA (USA)	10 mg/m ³
	MAK (Germany)	6 mg/m ³ Valid as per (mm/yy) : 05 / 95
	VME France 8H	10 mg/m ³
	VME France 8H	5 mg/m ³ respirable dust

Parameters of exposure controls : ZnO – group : slightly soluble Zn compounds
(as ZnO – Zn(OH)₂ – Zn₃(PO₄)₂ – ZnCO₃ – Zn metal - ZnS

<u>Designation</u>	<u>Type of Data</u>	<u>Unit</u>
ZnO	ACGIH-91/93 USA	10 mg/m ³
	OSHA (1989)(legal limit values)	5 mg/m ³ respirable dust
	DFG (1997) (Germany)	6 mg/m ³
	Arbejdstilsynet (1992) Denmark	10 mg/m ³
	VME France	10 mg/m ³
	SZW (1997) Netherland	5 mg/m ³ fumes
	HSE (1998) UK	10 mg/m ³
	NBOSHS (1993) Suede	5 mg/m ³ fumes

OCCUPATIONAL EXPOSURE MANAGEMENT:

Zn Risk management minimizing, needs an 8 hours time weighted average exposure below the DNEL in occupational workplaces. In order to perform a real exposure on workplace, it is recommended to:

- Keep under control Zn nuisance dust exposure,
- Determine the accurate working time per shift,
- Choose appropriate Personal protective equipment (Respiratory Protective device...) with accurate safety factor.

After calculation, Risk Characterisation Ratio (RCR) must be below than 1 for safe operating conditions. For more information see extended safety data sheet.

The DNELs for inhalation derived under REACH for both groups are: (Inhalable fraction – Workers)

- DNEL_{inhal soluble Zn (worker)} = 1 mg Zn/m³;
- DNEL_{inhal insoluble Zn (worker)} = 5 mg Zn/m³;

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

PERSONAL PROTECTIVE EQUIPMENT

The GES for trizinc bis(orthophosphate) production mentions the following in this respect:

- Wearing of gloves and protective clothing is compulsory (efficiency $\geq 90\%$).
- With normal handling, no respiratory personal protection (breathing apparatus) is necessary. If risk for exceedance of OEL/DNEL, use e.g.:
 - -dust filter-half mask P1 (efficiency 75%)
 - -dust filter-half mask P2 (efficiency 90%)
 - -dust filter-half mask P3 (efficiency 95%)
 - -dust filter-full mask P1 (efficiency 75%)
 - -dust filter-full mask P2 (efficiency 90%)
 - -dust filter-full mask P3 (efficiency 97.5%)
- Eyes: safety glasses are optional
- Information-training of the workers and their staff and line managers focused on careful hygiene behaviour.

Respiratory protection: adapted dust mask while handling the powder (for example FFP2). If possible, use a full face piece mask (upper permitted limits) when dust occurs.

Hand protection: use gloves during handling.

Eye protection: safety goggles with side shields (for example EN166).

Skin protection: Wear appropriate clothing to avoid any contact with skin.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent from any possibility of skin contact with this substance,

Other protective equipment/recommendations: observe good personal hygiene. Keep away from food stuff, drinks on the site. Wear appropriate working clothing.

ENVIRONMENT PROTECTIVE MEASURES

Avoid any dust generation. No data are available as to the Environment exposure. However, emissions have to conform to the authorised limits.

The GES for trizinc bis(orthophosphate) production mentions the following in this respect:

- Local exhaust ventilation systems (generic LEC (84%) as worst case; higher efficiencies (90-95%) are usual,
- Cyclones/filters (for minimizing dust emissions) : efficiency: 70-90% (cyclones), 50-80% (dust filters), 85-95% (double stage, cassette filters),
- Process enclosure, especially in potentially dusty units,
- Dust control: dust and Zn in dust needs to be measured in the workplace air (static or individual) according to national regulations,
- Special care for the general establishment and maintenance of a clean working environment by e.g :
- Cleaning of process equipment and workshop,
- Storage of packaged Zn product in dedicated zones.

It is impervious to keep under control the zinc phosphate emissions in the environment. If necessary an appropriate treatment device must be installed according to regulations.

Atmospheric emissions: ventilation systems must be appropriate for the level of performance required to control air emissions in accordance with current national requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Water emissions: must be controlled to prevent contamination of public sewage, rivers, surface water according national and local regulations.

Soil emissions: Do not let this material to contaminate soils or ground.

PNECs for zinc

Environmental compartment	PNEC value for Zn
Freshwater	20.6* µg/L
Saltwater	6.1* µg/L
Freshwater sediment	235.6 mg/kg sediment dry weight**.
Saltwater sediment	113 mg/kg sediment dry weight**
Soil	106.8 mg/kg soil dry weight***.
STP	52 µg/L

*added value, « PNEC_{add} »

**A generic bioavailability factor of 0.5 is applied by default, according to the EU risk assessment (ECB 2008)

*** A generic bioavailability/ageing factor of 3 is applied by default (ECB 2008).

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical state : solid, fine powder
Appearance : white powder
Odour : odourless

Change in physical state

Dehydration

80 - 600°C for tetrahydrated zinc phosphate
 120 - 600°C for trihydrated zinc phosphate
 160 - 600°C for dihydrated zinc phosphate

Melting

900° C
 900° C
 900° C

Decomposition

none as long as properly used.
 none as long as properly used.
 none as long as properly used.

Flash point

: not applicable.

Flammable properties

: not combustible, fire retardant.

Explosion risk

: not applicable.

Vapour pressure (20°C)

: not applicable.

Specif gravity

: 3.3 – 3.4 g/cm³ ISO 787/10

Solubility (water 20°C)

: 0.03 g/l.

pH (20°C)

: 6 - 8 ISO 787/9

others infirmations

: none

Partition coefficient: n-octanol-water

: not applicable

10. STABILITY AND REACTIVITY

Reactivity: unreactive with respect to materials commonly used in transport, handling and storage of industrial materials

Chemical stability: stable at room temperature and at temperatures up to 70°C (dehydration)

Possibility of hazardous reactions: None hazardous reactions if stored and handled in accordance

Conditions to avoid: Keep clear of acids and bases (solubility in these media)

Incompatible materials: No further relevant information available

Hazardous decomposition products: no hazardous decomposition product in normal storage conditions.

11. TOXICOLOGICAL PROPERTIES

Toxicity

LD 50 mouse intraperitoneal: 522 mg/kg.

LD 50 oral (rat): > 5 000 mg/kg.

LC50 Inhalation Dusts and mists: >5.7 mg/L 4H (Klimisch and all 1982) based on cross-reading from zinc oxide

Additional information: With LD50 values consistently exceeding 2,000 mg/kg bw, slightly soluble compounds such as, trizinc bis(orthophosphate) (LD50 is > 5,000) show low level of acute oral toxicity, not leading to classification for acute oral toxicity.

Trizinc bis(orthophosphate) (based on cross-reading from zinc oxide) is of low acute inhalation toxicity (i.e., LC50 values of > 5.7 mg/L/4hrs), not leading to classification for acute inhalation toxicity.

Primary irritant effect:

Skin: not irritant (based on cross-reading from ZnO : Löser, 1977; Lansdown, 1991)

Eyes: not irritant (Mirbeau et al, 1999)

Respiratory tract: not irritant (based on cross-reading from ZnO: Klimish et al, 1982)

Sensitization: No sensitizing effects known (based on cross-reading from ZnO: Van Huygevoort, 1999 g,h)

Repeated dose toxicity:

- **Specific target organ toxicity (single exposure):**

No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure) (based on cross-reading from ZnO) ; no classification for target organ toxicity (single exposure: STOT-SE required) (Heydon and Kagan, 1990; Gordon et al., 1992; Mueller and Seger, 1985 [Cited in Chemical Safety report (CSR) Trizinc bis(orthophosphate). 2010]).

- **Specific target organ toxicity (repeated exposure):**

No experimental or epidemiological sufficient evidence for specific target organ toxicity (repeated exposure) (based on cross-reading from ZnO) ; no classification for specific target organ toxicity (repeated exposure: STOT-RE required) (Lam et al, 1985, 1988; Conner et al. ,1988 [Cited in Chemical Safety report (CSR) Trizinc bis(orthophosphate). 2010]).

- **Aspiration hazard:**

Not available

11. TOXICOLOGICAL PROPERTIES (continued)

Carcinogenicity, Germ cell mutagenicity, Reproductive toxicity (CMR): No further experimental or epidemiological evidence available

- **Carcinogenicity**

No experimental or epidemiological evidence exists to justify classification of zinc compounds for carcinogenic activity (based on cross-reading between Zn compounds); no classification for carcinogenicity required (Chemical Safety report (CSR) Trizinc bis(orthophosphate). 2010)

- **Germ cell mutagenicity**

No biologically relevant genotoxic activity (based on cross-reading between Zn compounds); no classification for mutagenicity required (Chemical Safety report (CSR) Trizinc bis(orthophosphate). 2010).

- **Reproductive toxicity**

No experimental or epidemiological evidence exists to justify classification of zinc compounds for reproductive or developmental toxicity (based on cross-reading between Zn compounds); no classification for reproductive toxicity required (Chemical Safety report (CSR) Trizinc bis(orthophosphate). 2010)

This product is not hazardous for the human being when used properly.

12. ECOLOGICAL INFORMATION

Acute aquatic toxicity

The Acute aquatic toxicity database on zinc contains data on 11 standard species obtained under standard testing conditions at different pH and hardness. The full analysis of these data is given in the CSR.

The reference values for acute aquatic toxicity, based on the lowest observed EC₅₀ values of the corresponding databases at different pH and expressed as Zn²⁺ ion concentration are:

Acute toxicity for fish (<i>Oncorhynchus mykiss</i>) as zinc	LC50 (96 h)	0.14 – 2.6 mg Zn ²⁺ /l.
Acute toxicity for crustacea (<i>Ceriodaphnia dubia</i>) as zinc	EC50 (48 h)	0.413 mg Zn ²⁺ /l. for pH <7
(48 hr <i>Ceriodaphnia dubia</i> test according to US EPA 821-R-02-012 standard test protocol reference: Hyne et al 2005)		
Acute toxicity for algae (<i>Selenastrum capricornutum</i>) as zinc	EC50 (72 h)	0.136– 0.150 mg Zn ²⁺ /l.
(= <i>Pseudokirchorniella subcapitata</i>) test according to OECD 201 standard protocol; reference: Van Ginneken, 1994)		

After applying the molecular weight correction (transformation/dissolution testing is not relevant since this zinc compound is considered rather soluble), the specific reference values for acute aquatic toxicity of zinc orthophosphate is (applying a PZ20 Zn₃(PO₄)₂·4H₂O/Zn molecular weight ratio of 2.33 and a PZW2 Zn₃(PO₄)₂·2H₂O/Zn molecular weight ratio of 2,15):

Acute toxicity for fish (<i>Oncorhynchus mykiss</i>) as	PZ20	LC50 (96 h)	0.33 – 6.06 mg PZ20/L.
	PZW2	LC50 (96 h)	0.30 – 5.59 mg PZW2/L
Acute toxicity for crustacea (<i>Ceriodaphnia dubia</i>) as	PZ20	EC50 (48 h)	0.96 mg PZ20/L. for pH <7
	PZW2	EC50 (48 h)	0.89 mg PZW2/L. for pH <7
(48 hr <i>Ceriodaphnia dubia</i> test according to US EPA 821-R-02-012 standard test protocol reference: Hyne et al 2005)			
Acute toxicity for algae (<i>Selenastrum capricornutum</i>) as	PZ20	EC50 (72 h)	0.32 mg PZ20/L.
	PZW2	EC50 (72 h)	0.29 mg PZW2/L.
(= <i>Pseudokirchorniella subcapitata</i>) test according to OECD 201 standard protocol; reference: Van Ginneken, 1994)			

M Factor for this substance is 1 for an equivalent LC50 [0.1-1.0]mg/l (GHS or 1272/2008/EC regulation).

12. ECOLOGICAL INFORMATION (continued)

Chronic aquatic toxicity:

Freshwater: The chronic aquatic toxicity database on zinc contains high quality chronic NOEC/EC₁₀ values on 23 species (8 taxonomic groups) obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as Zn²⁺ ion concentration). This PNEC is an added value, i.e. it is to be added to the zinc background in water, see table below.

Marine water: The chronic aquatic toxicity database on zinc contains high quality chronic NOEC/EC₁₀ values on 39 species (9 taxonomic groups) obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as Zn²⁺ ion concentration). This PNEC is an added value, to be added on the zinc background in water, see table below.

Sediment toxicity: The chronic toxicity of zinc to sediment organisms in the freshwater was assessed based on a database containing high quality chronic NOEC/EC₁₀ values on 7 benthic species obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as total Zn contained in the sediment). This PNEC is an added value, to be added on the zinc background in the sediment, see table below. For the marine sediments, a PNEC was derived using the equilibrium partitioning approach, see table below.

Soil toxicity: The chronic toxicity of zinc to soil organisms was assessed based on a database containing high quality chronic NOEC/EC₁₀ values on 18 plant species, 8 invertebrate species and 17 microbial processes, obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as total Zn contained in the soil). This PNEC is an added value, to be added on the zinc background in the soil, see table below.

Toxicity to micro-organisms in STP: The PNEC for STP was derived by applying an assessment factor to the lowest relevant toxicity value: 5,2mg Zn/l (Dutka et al., 1983)

Persistence and biodegradability: Zinc is an element, and as such the criterion "persistence" is not relevant for the metal and its inorganic compounds in a way as it is applied to organic substances. An analysis on the removal of zinc from the water column has been presented as a surrogate for persistence. The rapid removal of zinc from the water column is documented in the CSR. So, zinc and zinc compounds do not meet this criterion, neither.

Behaviour in the environmental compartments

Bioaccumulative potential: Zinc is a natural, essential element, which is needed for the optimal growth and development of all living organisms, including man. All living organisms have homeostasis mechanisms that actively regulate zinc uptake and absorption/excretion from the body; due to this regulation, zinc and zinc compounds do not bioaccumulate or biomagnify.

Mobility in soils: For zinc (like for other metals) the transport and distribution over the different environmental compartments e.g. the water (dissolved fraction, fraction bound to suspended matter), soil (fraction bound or complexed to the soil particles, fraction in the soil pore water,...) is described and quantified by the metal partition coefficients between these different fractions. In the CSR, a solids-water partitioning coefficient of 158.5 l/kg (log value 2.2) was applied for zinc in soils (CSR zinc 2010).

Results of PBT and vPvB assessment: Zinc and zinc compounds are not PBT or vPvB.

Others lasting effects: No further relevant information available

13. DISPOSAL

Methods of waste treatment:

Material: Reduce as possible the amount of waste containing zinc phosphate. It is possible that contaminated waste may meet with the criteria of hazardous waste. Dispose in accordance with local environmental regulations.

* This substance does not meet the definition of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Contaminated package and containers: Empty bags can be either destroyed, or recycled according to the international norms that apply. Spoiled and unclean packaging is regulated by the ADR/IMDG.

14. TRANSPORT INFORMATION

ADR: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC PHOSPHATE), 9, III, (E)



IMDG: UN 3077, , ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC PHOSPHATE), 9, III,

MARINE POLLUTANT



FS: F-A, S-F

IATA: UN 3077, Environmentally hazardous substance, solid, n.o.s. (zinc phosphate), 9, III



Packing instruction: Y956 only for Limited Quantities and gross weight < 30 kg, or 956.

15. REGULATORY INFORMATION

15.1 Labelling according 1272/2008/EC (CLP –GHS):

Hazard pictogram:



WARNING

EINECS: 231-944-3

CAS N°: 7779-90-0

Annex VI Index N°: 030-011-00-6

Hazard statements: H410 Very toxic to aquatic life with long lasting effects.

Prevention: P273 Avoid release to the environment.

Response: P391 Collect spillage

Disposal: P501 Dispose of contents/ containers to be collected by a licensed contractor in accordance with national and local regulations.

15. REGULATORY INFORMATION (continued)

15.2 Labelling according 67/548/EEC:

This substance is subjected to labelling in accordance with the 67/548/EEC and 1999/45/EC directives. This substance is quoted in the corrigendum to 2004/73/EC of 29 April 2004 adapting to technical progress for the 29th time Council Directive 67/548/EEC.

Symbol of danger :



Dangerous for the environment.

N
R50/53

EC phrases:

- R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S60 : This material and its containers must be disposed of as hazardous waste.
S61 : Avoid release to the environment. Refer to special instructions / safety data sheets.

16. FURTHER INFORMATION

- **TOTAL LEAD** : < 0.1 %
- **SOLUBLE LEAD (HCI 0,07 N)** : < 0.1 %

UE: Zinc Phosphate storage is likely to be regulated by the SEVESO II directive; it would be considered as a dangerous substance for the aquatic environment.

Important phrases (according 1272/2008/UE)

- H400:** Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects.
R50/53: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

EUROPEAN LABELLING:

Labelling inherent in the use of this compound in a preparation (directive 1999/45/EC)

The preparation is labelled:

- « N/Dangerous for the environment », R50/53 if the concentration of this substance exceeds 25% on a weight basis ;
- « N/Dangerous for the environment », R51/53 if the concentration of this substance is between 2.5 and 25% on a weight basis;
- R52/53 if the concentration of this substance is between 0.25 and 2.5% on a weight basis.

Labelling inherent in the use of this compound in mixture (regulation CLP/ GHS 1272/2010/EC)


Classification of Zinc Phosphate substance: Acute and chronic aquatic very toxic Category 1. **M** factor = 1

The mixture containing this product is classified in different categories according the following the calculation concentration rules:

- **Labelling category 1:**  **GHS Label 09 + Warning**

Hazard: **H410** **Precautionary:** P273 + P391 + P501
when the concentration of zinc phosphate will exceed 25% in formulation (excluding any addition of other aquatic hazardous material) **or** according the formula:
$$[\Sigma (M \times \text{Concentration Chronic Category 1})] \geq 25\%:$$

16. FURTHER INFORMATION (continued)

- **Labelling category 2:**  **GHS Label 09**

Hazard: H411 **Precautionary: P273 + P391 + P501**

when the concentration of zinc phosphate will be include in the range between $2,5\% \leq x < 25\%$ (excluding any addition of other aquatic hazardous material) or according the formula:

$[\Sigma (M \times 10 \times \text{Concentration Chronic Category 1}) + \Sigma \text{Concentration Chronic Category 2}] \geq 25\%$

- **Labelling category 3:** **Hazard: H412** **Precautionary: P273 + P501**

when the concentration of zinc phosphate will be include in the range between $0.25\% \leq x < 2.5\%$ (excluding any addition of other aquatic hazardous material) or according the formula:

$[\Sigma (M \times 100 \times \text{Chronic Category 1}) + \Sigma (10 \times \text{Chronic Category 2}) + \Sigma \text{Chronic Category 3}] \geq 25\%$

Numerous uses were identified for $Zn_3(PO_4)_2$. These are listed in table below. Recommended uses by the SNCZ for downstream channel are in the e-SDS

Identified uses for $Zn_3(PO_4)_2$ and corresponding Generic Exposure Scenario (GES)

IU: 10 Laboratory reagent; **GES code: 3**

IU: 14 Component for production of Coatings / paints, inks, enamels, varnishes; **GES code: 1**

IU: 15-16 Use of $Zn_3(PO_4)_2$ containing paints & coatings; **GES code: 7**, and Generic consumer/environment*

IU: 19 Additive for the formulation of fertilizers; **GES code: 1**

IU: 20 Use of $Zn_3(PO_4)_2$ containing fertilizer's formulations; GES code: Generic consumer/environment

* corresponds to "GES 8" in IUCLID

GERMANY :

- **Wassergefährdungsklasse WGK (VwVwS)** : WGK 2 – water pollutant – in accordance with annex 3, German VwVwS.

16. FURTHER INFORMATION (Continued)

USA :

- **RTECS n°:** TD 0590000 (Register of Toxical Effects of Chemical Substances).
- Substance listed in the Toxic Substances Control Act Inventory (TSCA) (USA).
- **Cercla hazard rating (scale 0-3) :** Toxicity 2 - Flammability 0 -Reactivity 0 - Persistence 3

HMIS Rating : H = 0 - F = 0 - PH = 0.

HMIS III : The HMIS III ratings are from the HMIS Third Edition. There have been significant changes made to the system. "PH" stands for "Physical Hazard" as defined in the OSHA Haz Com Standard and replaces the former code "R" for "Reactivity". For a more detailed explanation of the system and the ratings, please contact our Offices at: INT = 33 1 30 40 57 57.

International status of the product :

- **Australia :** Listed in the AICS.
- **Canada :** Domestic Substance List (DSL).
- **Europ (EC):** REACH status: This substance is registered according regulation REACH 1907/2006/EC.
EINECS registered substance.
This substance meets with RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment) directive (2002/95/CE) for Lead, Cadmium, hexavalent Chromium, Mercury, Diphenylethers Polybrominated and Polybromated Biphenyls.
This substance is with directive ELV (End Life of Vehicles) 2000/53/EC
- **Japan :** Listed in the MITI.
- **USA:** TSCA registered

End of safety data sheet

The information contained herein is based on the present state of our knowledge, but without liability.

Modifications compare to the former version : □ : Addition ▽:Text modification