



## Safety Data Sheet

# KALEX ZN

Safety Data Sheet dated 22/12/2016, version 2

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

#### 1.1. Product identifier

Mixture identification:

Trade name: KALEX ZN

Trade code: 180800

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

Recommended use:

Professional use.

Fertilizer for agricultural use

Uses advised against:

The pertinent uses are listed above, other uses are not recommended

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

Company:

ALBA MILAGRO International spa

Via F. Corridoni 19 20015 Parabiago (MI) Italy

ph +39 0331495211

Competent person responsible for the safety data sheet:

reach@albamilagro.com

#### 1.4. Emergency telephone number

Emergency telephone number of the company and/or of an authorised advisory centre (Monday to Friday from 8:30 to 12:30 and from 13:30 to 17:30):

ph +39 0331495211

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP):



Warning, Acute Tox. 4, Harmful if swallowed.



Danger, Skin Corr. 1A, Causes severe skin burns and eye damage.



Danger, Eye Dam. 1, Causes serious eye damage.



Aquatic Chronic 2, Toxic to aquatic life with long lasting effects.

#### **ALBA MILAGRO International S.P.A.**

Via Corridoni, 19 - 20015 Parabiago (MI) - ITALY  
P.IVA - 11707620156

Tel. +39.0331.495211  
Fax +39.0331.557957

milagro@albamilagro.com  
www.albamilagro.com

Adverse physicochemical, human health and environmental effects:

No other hazards

## 2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P391 Collect spillage.

Special Provisions:

None

Contains

Zinc Phosphonate  
 phosphonic acid;

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

## 2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards



## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:






Qty	Name	Ident. Number	Classification
>= 30% - < 40%	Zinc Phosphonate	CAS: 14332-59-3 EC: 238-279-8	 3.1/4/Oral Acute Tox. 4 H302   3.2/1C Skin Corr. 1C H314

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			 4.1/C2 Aquatic Chronic 2 H411
>= 5% - < 7%	Monopotassium Phosphite	CAS: 13977-65-6 EC: 604-162-9 REACH No.: 01-2119988836-13	 3.3/2 Eye Irrit. 2 H319
>= 1% - < 3%	phosphonic acid;	Index number: 015-157-00-0 CAS: 13598-36-2 EC: 237-066-7 REACH No.: 01-2119488030-46	 2.16/1 Met. Corr. 1 H290  3.2/1A Skin Corr. 1A H314  3.1/4/Oral Acute Tox. 4 H302

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

Give nothing to eat or drink.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

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5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

## SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

## SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No occupational exposure limit available

#### DNEL Exposure Limit Values

Monopotassium Phosphite - CAS: 13977-65-6

Worker Professional: 41.2 mg/m<sup>3</sup> - Consumer: 10.2 mg/m<sup>3</sup> - Exposure: Human Inhalation Long Term, systemic effects

Worker Professional: 59 mg/kg bw / day - Consumer: 29 mg/kg bw / day - Exposure: Human Dermal Long Term, systemic effects

Consumer: 2.9 mg/kg bw / day - Exposure: Human Oral Long Term, systemic effects

phosphonic acid; - CAS: 13598-36-2

Worker Industry: 2.94 mg/m<sup>3</sup> - Consumer: 0.72 mg/m<sup>3</sup> - Exposure: Human Inhalation Long Term, systemic effects

Worker Industry: 2.94 mg/kg - Consumer: 0.42 mg/kg - Exposure: Human Dermal Long Term, systemic effects

Consumer: 0.42 mg/kg - Exposure: Human Oral Long Term, systemic effects

#### PNEC Exposure Limit Values

Monopotassium Phosphite - CAS: 13977-65-6

Target: Fresh Water - Value: 0.137 mg/l

Target: Marine water - Value: 0.0137 mg/l

Target: Intermittent - Value: 1.37 mg/l

Target: Freshwater sediments - Value: 0.117 03

Target: Marine water sediments - Value: 0.0117 03

Target: STP - Value: 100 mg/l

Target: Soil (agricultural) - Value: 1 03

#### 8.2. Exposure controls

##### Eye protection:

Use close fitting safety goggles, don't use eye lens.

##### Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

##### Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

##### Respiratory protection:

Not needed for normal use.

##### Thermal Hazards:

None

##### Environmental exposure controls:

None

##### Appropriate engineering controls:

None

## SECTION 9: Physical and chemical properties

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

Properties	Value	Method:	Notes:
Appearance and colour:	Liquid	--	yellow
Odour:	Typical	--	--

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Odour threshold:	n.d.	--	--
pH:	2	--	--
Melting point / freezing point:	n.a.	--	--
Initial boiling point and boiling range:	n.d.	--	--
Flash point:	n.d. ° C	--	--
Evaporation rate:	n.d.	--	--
Solid/gas flammability:	Not Relevant	--	--
Upper/lower flammability or explosive limits:	n.d.	--	--
Vapour pressure:	n.d.	--	--
Vapour density:	n.d.	--	--
Relative density:	1360 +/- 5 g/L	--	--
Solubility in water:	completely miscible	--	--
Solubility in oil:	Not Relevant	--	--
Partition coefficient (n-octanol/water):	Not Relevant	--	--
Auto-ignition temperature:	Not Relevant	--	--
Decomposition temperature:	n.d.	--	--
Viscosity:	n.d.	--	--
Explosive properties:	Not Relevant	--	--
Oxidizing properties:	n.d.	--	--

## 9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	n.d.	--	--
Fat Solubility:	n.d.	--	--
Conductivity:	n.d.	--	--
Substance Groups relevant properties	n.d.	--	--

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Stable under normal conditions

### 10.3. Possibility of hazardous reactions

None

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

None in particular.

### 10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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 www.albamilagro.com

Toxicological information of the product:

N.A.

Toxicological information of the main substances found in the product:

Monopotassium Phosphite - CAS: 13977-65-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg bw - Source: Salvador M. (2013) - Notes: Potassium Phosphonate

Test: LD50 - Route: Skin - Species: Rat > 5000 mg/kg bw - Source: Salvador M. (2013) - Notes: test-across from supporting substance

b) skin corrosion/irritation:

Test: Skin Irritant - Route: Skin Negative - Source: Bisini L. (2013) - Notes: OECD Guideline 439

c) serious eye damage/irritation:

Test: Eye Irritant Positive - Source: Longobardi C. (2012) - Notes: OECD Guideline 437 - read-across study

Test: Skin Corrosive Negative

d) respiratory or skin sensitisation:

Test: Skin Sensitization Negative - Source: Longobardi C. (2013) - Notes: test-across from supporting substance

e) germ cell mutagenicity:

Test: Mutagenesis Negative - Source: Cicalese R. (2013)

phosphonic acid; - CAS: 13598-36-2

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 1895 mg/kg

Test: LD50 - Route: Oral - Species: Mouse = 1700 mg/kg

Test: C\_INGESTION - Route: Oral Positive

b) skin corrosion/irritation:

Test: Skin Irritant Positive

c) serious eye damage/irritation:

Test: Eye Irritant Positive

j) aspiration hazard:

Test: Respiratory Tract Irritant Positive

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

a) acute toxicity;

b) skin corrosion/irritation;

c) serious eye damage/irritation;

d) respiratory or skin sensitisation;

e) germ cell mutagenicity;

f) carcinogenicity;

g) reproductive toxicity;

h) STOT-single exposure;

i) STOT-repeated exposure;

j) aspiration hazard.

## SECTION 12: Ecological information

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Via Corridoni, 19 - 20015 Parabiago (MI) - ITALY  
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## 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Monopotassium Phosphite - CAS: 13977-65-6

### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 200 mg/l - Duration h: 96 - Notes: Tediosi (2013) OECD 230, read-across study

Endpoint: IC50 - Species: Daphnia > 200 mg/l - Duration h: 48 - Notes: Tediosi (2013) OECD 202, read-across study

Endpoint: LC50 - Species: Algae > 200 mg/l - Duration h: 72 - Notes: Tediosi (2013) OECD 201  
Potassium phosphonate

### c) Bacteria toxicity:

Endpoint: LC50 - Species: Bacteria > 1000 mg/kg - Notes: 14 days Tediosi (2013) OECD 207  
phosphonic acid; - CAS: 13598-36-2

### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 6784 mg/l - Duration h: 96 - Notes: Brachydanio rerio

Endpoint: EC50 - Species: Daphnia > 1000 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: EC50 - Species: Algae = 153 mg/l - Duration h: 72 - Notes: Pseudokirchneriella subcapitata

Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96 - Notes: Cyprinus carpio

## 12.2. Persistence and degradability

None

N.A.

## 12.3. Bioaccumulative potential

N.A.

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

## 12.6. Other adverse effects

None

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

## SECTION 14: Transport information

### 14.1. UN number

ADR-UN number: 3264

IATA-Un number: 3264

IMDG-Un number: 3264

### 14.2. UN proper shipping name

ADR-Shipping Name: Corrosive Liquid Acidic, Inorganic, n.o.s. (Phosphorous Acid solution)

IATA-Technical name: Corrosive Liquid Acidic, Inorganic, n.o.s. (Phosphorous Acid solution)

IMDG-Technical name: Corrosive Liquid Acidic, Inorganic, n.a.s. (Phosphorous Acid solution)

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#### 14.3. Transport hazard class(es)

ADR-Class: 8  
ADR-Label: 8  
IATA-Class: 8  
IATA-Label: 8  
IMDG-Class: 8

#### 14.4. Packing group

ADR-Packing Group: III  
IATA-Packing group: III  
IMDG-Packing group: III

#### 14.5. Environmental hazards

Marine pollutant: MARINE POLLUTANT

#### 14.6. Special precautions for user

ADR-Tunnel Restriction Code: E  
Rail (RID): 8  
IMDG-Technical name: Corrosive Liquid Acidic, Inorganic, n.a.s. (Phosphorous Acid solution)  
IMDG-EMS: F-A, S-B

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

N.A.

### SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)  
Dir. 2000/39/EC (Occupational exposure limit values)  
Regulation (EC) n. 1907/2006 (REACH)  
Regulation (EC) n. 1272/2008 (CLP)  
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013  
Regulation (EU) 2015/830  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

None

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)  
Regulation (EC) nr 648/2004 (detergents).  
Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1  
Product belongs to category: E2

#### 15.2. Chemical safety assessment

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No Chemical Safety Assessment has been carried out for the mixture.

## SECTION 16: Other information

Text of phrases referred to under heading 3:

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

H319 Causes serious eye irritation.

H290 May be corrosive to metals.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1C	3.2/1C	Skin corrosion, Category 1C
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2

Paragraphs modified from the previous revision:

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

SECTION 2: Hazards identification

SECTION 6: Accidental release measures

SECTION 8: Exposure controls/personal protection

SECTION 9: Physical and chemical properties

SECTION 11: Toxicological information

SECTION 12: Ecological information

SECTION 14: Transport information

SECTION 15: Regulatory information

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Acute Tox. 4, H302	Calculation method
Skin Corr. 1A, H314	On basis of test data (pH)
Eye Dam. 1, H318	On basis of test data (pH)
Aquatic Chronic 2, H411	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

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milagro@albamilagro.com  
www.albamilagro.com

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

PNEC: Predicted No Effect Concentration.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWA: Time-weighted average

WGK: German Water Hazard Class.