

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Product name SIPP-ZN<sub>35</sub>MN<sub>25</sub>

#### Other means of identification

Product code 50001896

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

Use of the Substance/Mixture : A fertilizer with micronutrients for use in agriculture

Recommended restrictions on use : Use as recommended by the label.  
Do not use product for anything outside of the above specified uses.

### 1.3 Manufacturer or supplier's details

Supplier Address FMC Agro Limited  
Rectors Lane, Pentre  
Flintshire  
CH5 2DH  
United Kingdom

Telephone: + 44 1244 537370  
E-mail address: SDS-Info@fmc.com .

### 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:  
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:  
England and Wales: 111  
Scotland: 84 54 24 2424

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
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50001896

Date of last issue: -  
Date of first issue: 09.12.2019

Long-term (chronic) aquatic hazard, Category 1      H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :



Signal word : Warning

Hazard statements : H410 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/ container to an approved waste disposal plant.

### Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
manganese carbonate	598-62-9	Aquatic Chronic 2;	>= 25 - < 30

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
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	209-942-9	H411	
zinc oxide	1314-13-2 215-222-5 030-013-00-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	>= 20 - < 25
ethanediol	107-21-1 203-473-3 603-027-00-1	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	>= 1 - < 10
sodium acrylate	7446-81-3 231-209-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411  M-Factor (Acute aquatic toxicity): 10  specific concentration limit Skin Sens. 1A; H317 >= 0.036 %	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
Avoid inhalation, ingestion and contact with skin and eyes.  
If potential for exposure exists refer to Section 8 for specific

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

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50001896

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---

personal protective equipment.

- If inhaled : Move to fresh air.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.  
If experiencing any discomfort, immediately remove from exposure. Get medical attention if discomfort does not disappear.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash contaminated clothing before re-use.  
Wash off immediately with plenty of water for at least 15 minutes.  
Get medical attention immediately if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.  
Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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

- Risks : None known.

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

- Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet  
Do not spread spilled material with high-pressure water streams.

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

- Specific hazards during fire- : Do not allow run-off from fire fighting to enter drains or water

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

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17.09.2024

SDS Number:  
50001896

Date of last issue: -  
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---

fighting courses.

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.  
Carbon oxides

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Firefighters should wear protective clothing and self-contained breathing apparatus.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: Accidental release measures

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

- Personal precautions : Do not touch or walk through the spilled material.  
If it can be safely done, stop the leak.  
Ensure adequate ventilation.  
Use personal protective equipment.  
Evacuate personnel to safe areas.  
Never return spills in original containers for re-use.  
Mark the contaminated area with signs and prevent access to unauthorized personnel.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
For disposal considerations see section 13.

### 6.2 Environmental precautions

- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
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---

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Local/Total ventilation : Ensure adequate ventilation.
- Advice on safe handling : Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Hygiene measures : Wash hands before breaks and at the end of workday.

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

- Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
- Recommended storage temperature : > 5 °C
- Further information on storage stability : Do not freeze.  
Protect from frost, heat and sunlight.  
  
No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

- Specific use(s) : Fertilizers

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
manganese carbonate	598-62-9	TWA (Inhalable)	0.2 mg/m <sup>3</sup> (Manganese)	GB EH40
		TWA (Respirable fraction)	0.05 mg/m <sup>3</sup> (Manganese)	GB EH40
		TWA (inhalable)	0.2 mg/m <sup>3</sup>	2017/164/EU

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

		fraction)	(Manganese)	
Further information: Indicative				
	TWA (Respirable fraction)	0.05 mg/m <sup>3</sup> (Manganese)		2017/164/EU
Further information: Indicative				
ethanediol	107-21-1	TWA (particles)	10 mg/m <sup>3</sup>	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA (Vapour)	20 ppm 52 mg/m <sup>3</sup>	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL (Vapour)	40 ppm 104 mg/m <sup>3</sup>	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	20 ppm 52 mg/m <sup>3</sup>	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	40 ppm 104 mg/m <sup>3</sup>	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

### Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

### Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
manganese carbonate	Fresh water	0.0084 mg/l
	Intermittent use/release	0.011 mg/l
	Marine water	840 ng/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	8.18 mg/kg dry weight (d.w.)
	Marine sediment	0.810 mg/kg dry weight (d.w.)
	Soil	8.15 mg/kg dry

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1 Revision Date: 17.09.2024 SDS Number: 50001896 Date of last issue: - Date of first issue: 09.12.2019

		weight (d.w.)
ethanediol	Fresh water	10 mg/l
	Marine water	1 mg/l
	Sewage treatment plant	199.5 mg/l
	Fresh water sediment	37 mg/kg dry weight (d.w.)
	Marine sediment	3.7 mg/kg dry weight (d.w.)
	Soil	1.53 mg/kg dry weight (d.w.)
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/l
	Marine sediment	0.00499 mg/l

## 8.2 Exposure controls

### Personal protective equipment

- Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles
- Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : No personal respiratory protective equipment normally required.
- Protective measures : Plan first aid action before beginning work with this product.  
Always have on hand a first-aid kit, together with proper instructions.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
Wear suitable protective equipment.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : liquid  
Form : liquid  
Colour : light brown

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
-------------	---------------------------	----------------------	--

Odour	:	Barely perceptible
Odour Threshold	:	No data available
pH	:	8.5 - 9.5 Concentration: 100 %
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.75 - 1.80
Density	:	No data available
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	Non-oxidizing

## 9.2 Other information

Particle size	:	No data available
Particle Size Distribution	:	No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

Conditions to avoid : Avoid extreme temperatures  
Protect from frost, heat and sunlight.  
Avoid formation of aerosol.

### 10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

### 10.6 Hazardous decomposition products

Toxic fumes

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

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

#### Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

#### Components:

##### **manganese carbonate:**

Acute oral toxicity : LD0 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 420  
Remarks: no mortality

Acute inhalation toxicity : LC0 (Rat, male and female): > 5.35 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Remarks: no mortality  
Based on data from similar materials

##### **zinc oxide:**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 423

LD50 (Mouse, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Target Organs: Liver, Heart, spleen, Stomach, Pancreas  
Symptoms: Damage  
Remarks: mortality

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
----------------	------------------------------	-------------------------	--

Acute inhalation toxicity : LC0 (Rat, male and female): > 1.79 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: EPA OPP 81 - 3  
Remarks: no mortality

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402

### **ethanediol:**

Acute inhalation toxicity : LC0 (Rat, male and female): > 2.5 mg/l  
Exposure time: 6 h  
Test atmosphere: dust/mist  
Remarks: no mortality

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

### **1,2-benzisothiazol-3(2H)-one:**

Acute oral toxicity : LD50 (Rat, male and female): 490 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

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

### **Product:**

Remarks : No data available

### **Components:**

#### **manganese carbonate:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

#### **zinc oxide:**

Species : reconstructed human epidermis (RhE)  
Method : OECD Test Guideline 431  
Result : No skin irritation

#### **ethanediol:**

Species : Rabbit  
Result : No skin irritation

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### 1,2-benzisothiazol-3(2H)-one:

Species : Rabbit  
Exposure time : 72 h  
Method : OECD Test Guideline 404  
Result : No skin irritation

### Serious eye damage/eye irritation

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

### Product:

Remarks : No data available

### Components:

#### manganese carbonate:

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

#### zinc oxide:

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

#### ethanediol:

Species : Rabbit  
Result : No eye irritation

#### 1,2-benzisothiazol-3(2H)-one:

Species : Bovine cornea  
Method : OECD Test Guideline 437  
Result : No eye irritation

Species : Rabbit  
Method : EPA OPP 81-4  
Result : Irreversible effects on the eye

### Respiratory or skin sensitisation

#### Skin sensitisation

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

#### Respiratory sensitisation

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

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### Product:

Remarks : No data available

### Components:

#### **manganese carbonate:**

Test Type : Local lymph node test  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Does not cause skin sensitisation.  
Remarks : Based on data from similar materials

#### **zinc oxide:**

Test Type : Maximisation Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

Test Type : Maximisation Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Substance is not considered to be potential skin sensitisier.

#### **ethanediol:**

Test Type : Maximisation Test  
Species : Guinea pig  
Result : Does not cause skin sensitisation.

#### **1,2-benzisothiazol-3(2H)-one:**

Test Type : Maximisation Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitisation by skin contact.

Species : Guinea pig  
Method : FIFRA 81.06  
Result : May cause sensitisation by skin contact.

### **Germ cell mutagenicity**

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

### Components:

#### **manganese carbonate:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (female)  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### **zinc oxide:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: equivocal

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster fibroblasts  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Chromosome aberration test in vitro  
Test system: Human lymphocytes  
Result: positive

Test Type: Micronucleus test  
Test system: Human epithelioid cells  
Method: OECD Test Guideline 487  
Result: negative

Test Type: Micronucleus test  
Test system: Human lymphocytes  
Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse (male)

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

### ethanediol:

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OPPTS 870.5100  
Result: negative

Genotoxicity in vivo : Test Type: dominant lethal test  
Species: Rat  
Application Route: Oral  
Result: negative

### 1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro : Test Type: gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay  
Species: Rat (male)  
Cell type: Liver cells  
Application Route: Ingestion  
Exposure time: 4 h  
Method: OECD Test Guideline 486  
Result: negative

Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### Carcinogenicity

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

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
----------------	------------------------------	-------------------------	--

### Components:

#### **zinc oxide:**

Species	:	Mouse, male and female
Application Route	:	Oral
Exposure time	:	1 year
Dose	:	4400, 22000 mg/l
NOAEL	:	> 22,000 mg/l
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

#### **ethanediol:**

Species	:	Mouse
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

### **Reproductive toxicity**

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

### Components:

#### **manganese carbonate:**

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: inhalation (dust/mist/fume) Dose: 0, .005, .01, .02 mg/L General Toxicity - Parent: NOEL: 0.02 mg/l Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Species: Rat Application Route: inhalation (dust/mist/fume) Duration of Single Treatment: 15 d General Toxicity Maternal: NOAEL: 0.025 mg/L Developmental Toxicity: LOAEL: 0.025 mg/L Embryo-foetal toxicity: NOAEL: 0.025 mg/L Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

#### **zinc oxide:**

Effects on fertility	:	Test Type: Two-generation study
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# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

Species: Rat, male and female  
Application Route: Oral  
Dose: 7.5, 15, 30mg/kg bw/day  
Frequency of Treatment: 7 days/week  
General Toxicity - Parent: LOAEL: 7.5 mg/kg body weight  
General Toxicity F1: LOAEL: 30 mg/kg body weight  
Method: OECD Test Guideline 416  
Result: negative  
Remarks: Based on data from similar materials

Test Type: one-generation reproductive toxicity  
Species: Rat, male  
Application Route: Oral  
Dose: 4,000 milligram per liter  
Frequency of Treatment: 32 daily  
General Toxicity - Parent: LOAEL: 4,000 mg/l  
General Toxicity F1: LOAEL: 4,000 mg/l  
Symptoms: Reduced fertility  
Target Organs: male reproductive organs  
Result: positive  
Remarks: Based on data from similar materials

Effects on foetal development : Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Dose: .0003, 0.002, 0.008 milligram per liter  
Duration of Single Treatment: 14 d  
General Toxicity Maternal: LOAEC: 0.008 mg/L  
Developmental Toxicity: NOAEC: 0.008 mg/L  
Embryo-foetal toxicity: NOAEC Mating/Fertility: 0.008 mg/L  
Method: OECD Test Guideline 414  
Result: negative

### 1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male  
Application Route: Ingestion  
General Toxicity - Parent: NOAEL: 18.5 mg/kg body weight  
General Toxicity F1: NOAEL: 48 mg/kg body weight  
Fertility: NOAEL: 112 mg/kg bw/day  
Symptoms: No effects on reproduction parameters  
Method: OPPTS 870.3800  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### STOT - single exposure

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

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
----------------	------------------------------	-------------------------	--

### Components:

#### **manganese carbonate:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### **STOT - repeated exposure**

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

### Components:

#### **ethanediol:**

Exposure routes : Oral  
Target Organs : Kidney  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### **1,2-benzisothiazol-3(2H)-one:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### **Repeated dose toxicity**

### Components:

#### **manganese carbonate:**

Species : Rabbit, male  
LOAEC : 0.0039 mg/l  
Application Route : Inhalation  
Test atmosphere : dust/mist  
Exposure time : 4 - 6 weeks  
Dose : 0, .001, .0039 mg/L  
Remarks : Based on data from similar materials

#### **zinc oxide:**

Species : Rat, male and female  
NOAEL : 31.52 mg/kg  
LOAEL : 127.52 mg/kg  
Application Route : Oral  
Exposure time : 13 weeks  
Dose : 0, 31.52, 127.52 mg/kg  
Method : OECD Test Guideline 408  
Target Organs : Pancreas  
Symptoms : Necrosis  
Remarks : Based on data from similar materials

Species : Mouse, male and female  
NOEL : 3000 ppm  
Application Route : Oral  
Exposure time : 13 weeks

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
----------------	------------------------------	-------------------------	--

Dose : 0, 300, 3000, 30000 ppm  
Method : OECD Test Guideline 408  
Remarks : Based on data from similar materials

Species : Rat, male  
LOAEL : 0.0045 mg/l  
Application Route : Inhalation (dust/mist/fume)  
Exposure time : 3 months  
Dose : 0.0003, 0.0015, 0.004mg/l  
Method : OECD Test Guideline 413  
Target Organs : Lungs  
Remarks : mortality

Species : Rat, male and female  
LOAEL : 75 mg/kg bw/day  
Application Route : Dermal  
Exposure time : 28d  
Dose : 0, 75, 180, 360 mg/kg bw/day  
Method : OECD Test Guideline 410

### ethanediol:

Species : Rat  
NOAEL : 150 mg/kg  
Application Route : Oral  
Exposure time : 12 Months

Species : Dog  
NOAEL : > 2,200 - < 4,400 mg/kg  
Application Route : Dermal  
Exposure time : 4 Weeks  
Method : OECD Test Guideline 410

### 1,2-benzisothiazol-3(2H)-one:

Species : Rat, male and female  
NOAEL : 15 mg/kg  
Application Route : Ingestion  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
Symptoms : Irritation

Species : Rat, male and female  
NOAEL : 69 mg/kg  
Application Route : Ingestion  
Exposure time : 90 d  
Symptoms : Irritation, Reduced body weight

### Aspiration toxicity

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

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### Experience with human exposure

#### Components:

##### **zinc oxide:**

- Inhalation : Symptoms: Fatigue, Sweating, bitter taste, chills, dry mouth, flu-like symptoms
- Ingestion : Symptoms: Gastrointestinal discomfort

### Further information

#### Product:

- Remarks : No data available

---

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

- Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 7.29 mg/l  
Exposure time: 96 h  
Remarks: Estimated value
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15.3 mg/l  
Exposure time: 48 h  
Remarks: Estimated value
- Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): 0.690 mg/l  
Exposure time: 72 h  
Remarks: Estimated value

#### Components:

##### **manganese carbonate:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.17 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 3.6 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 2.2 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.69 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (activated sludge): 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials

EC50 (activated sludge): > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: 0.55 mg/l  
Exposure time: 65 d  
Species: Salvelinus fontinalis (Brook trout)  
Test Type: flow-through test  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.3 mg/l  
Exposure time: 8 d  
Species: Ceriodaphnia dubia (water flea)  
Test Type: static test  
Remarks: Based on data from similar materials

### **zinc oxide:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.55 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 0.76 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

LC50 : 0.37 mg/l  
Exposure time: 96 h  
Test Type: static test

EC50 : 0.14 mg/l  
Exposure time: 24 h  
Test Type: static test

EC50 : 0.072 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (algae)): 0.044 mg/l  
Exposure time: 72 h

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 0.024 mg/l  
Exposure time: 3 d  
Method: OECD Test Guideline 201

IC50 (Skeletonema costatum (marine diatom)): 1.23 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

IC50 : 3.28 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

NOEC (Dunaliella tertiolecta (marine algae)): 0.01 mg/l  
Exposure time: 4 d  
Test Type: static test

EC50 (Dunaliella tertiolecta (marine algae)): 0.65 mg/l  
Exposure time: 4 d  
Test Type: static test

(Chlorella vulgaris (Fresh water algae)): 1.16 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

EC50 (Anabaena flos-aquae (cyanobacterium)): 0.3 mg/l  
Exposure time: 96 h  
Test Type: static test

EC50 : 0.69 mg/l  
Exposure time: 3 d  
Test Type: static test

EC50 (Phaeodactylum tricornutum): 1.12 mg/l  
Exposure time: 24 h  
Test Type: static test

M-Factor (Acute aquatic toxicity)

: 1

Toxicity to microorganisms

: EC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

EC50 (Tetrahymena pyriformis): 7.1 mg/l  
Exposure time: 24 h  
Test Type: Growth inhibition

Toxicity to fish (Chronic toxicity)

: NOEC: 0.440 mg/l  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

Test Type: flow-through test  
Remarks: Based on data from similar materials

NOEC: 0.026 mg/l  
Exposure time: 30 d  
Species: Jordanella floridae (flagfish)  
Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials

NOEC: 0.530 mg/l  
Exposure time: 1,095 d  
Species: Salvelinus fontinalis (Brook trout)  
Test Type: flow-through test  
Remarks: Based on data from similar materials

NOEC: 0.056 mg/l  
Exposure time: 116 d  
Species: Salmo trutta (brown trout)  
Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials

NOEC: 0.025 mg/l  
Exposure time: 27 d  
Species: Fish  
Test Type: semi-static test  
Remarks: Based on data from similar materials

NOEC: 0.078 mg/l  
Exposure time: 248 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test  
Remarks: Based on data from similar materials

NOEC: 0.050 mg/l  
Exposure time: 155 d  
Species: Fish  
Test Type: flow-through test  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC: 0.125 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to soil dwelling organisms : NOEC: 750 mg/kg  
Exposure time: 21 d  
Species: Eisenia fetida (earthworms)

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### ethanediol:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 72,860 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): 10,940 mg/l  
Exposure time: 96 h
- Toxicity to microorganisms : (activated sludge): > 1,995 mg/l  
Exposure time: 30 min  
Method: ISO 8192
- Toxicity to fish (Chronic toxicity) : 1,500 mg/l  
Exposure time: 28 d  
Species: Menidia peninsulae (tidewater silverside)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 33,911 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### sodium acrylate:

#### Ecotoxicology Assessment

- Acute aquatic toxicity : Very toxic to aquatic life.
- Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### 1,2-benzisothiazol-3(2H)-one:

- Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7 mg/l  
Exposure time: 96 h  
Test Type: static test
- LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

EC50 (activated sludge): 12.8 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

M-Factor (Chronic aquatic toxicity) : 1

## 12.2 Persistence and degradability

### Components:

#### **ethanediol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 90 - 100 %  
Exposure time: 10 d  
Method: OECD Test Guideline 301A

#### **1,2-benzisothiazol-3(2H)-one:**

Biodegradability : Result: rapidly biodegradable  
Method: OECD Test Guideline 301C

## 12.3 Bioaccumulative potential

### Components:

#### **zinc oxide:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Exposure time: 14 d  
Bioconcentration factor (BCF): 2,060

#### **ethanediol:**

Partition coefficient: n-octanol/water : log Pow: -1.36

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### 1,2-benzisothiazol-3(2H)-one:

- Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Exposure time: 56 d  
Bioconcentration factor (BCF): 6.62  
Method: OECD Test Guideline 305  
Remarks: Substance is not persistent, bioaccumulative, and toxic (PBT).
- Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)  
pH: 7  
  
log Pow: 0.99 (20 °C)  
pH: 5

## 12.4 Mobility in soil

### Components:

#### 1,2-benzisothiazol-3(2H)-one:

- Distribution among environmental compartments : Koc: 9.33 ml/g, log Koc: 0.97  
Method: OECD Test Guideline 121  
Remarks: Highly mobile in soils

## 12.5 Results of PBT and vPvB assessment

### Product:

- Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Other adverse effects

### Product:

- Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).
- Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- Product : The product should not be allowed to enter drains, water

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## SECTION 14: Transport information

### 14.1 UN number

<b>ADN</b>	:	UN 3082
<b>ADR</b>	:	UN 3082
<b>RID</b>	:	UN 3082
<b>IMDG</b>	:	UN 3082
<b>IATA</b>	:	UN 3082

### 14.2 UN proper shipping name

<b>ADN</b>	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide)
<b>ADR</b>	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide)
<b>RID</b>	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide)
<b>IMDG</b>	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide)
<b>IATA</b>	:	Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADN</b>	:	9
<b>ADR</b>	:	9
<b>RID</b>	:	9
<b>IMDG</b>	:	9
<b>IATA</b>	:	9

### 14.4 Packing group

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
----------------	------------------------------	-------------------------	--

### ADN

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

### ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

### RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

### IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

### IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

### IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

## 14.5 Environmental hazards

### ADN

Environmentally hazardous	:	yes
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### ADR

Environmentally hazardous	:	yes
---------------------------	---	-----

### RID

Environmentally hazardous	:	yes
---------------------------	---	-----

### IMDG

Marine pollutant	:	yes
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### IATA (Passenger)

Environmentally hazardous	:	yes
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### IATA (Cargo)

Environmentally hazardous	:	yes
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# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	: Conditions of restriction for the following entries should be considered: Number on list 3  ethanediol (Number on list 3)
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	: Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	: Not applicable
Regulation (EC) on substances that deplete the ozone layer	: Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	: Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	E1 E2 E1
	ENVIRONMENTAL HAZARDS

### Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version  
1.1

Revision Date:  
17.09.2024

SDS Number:  
50001896

Date of last issue: -  
Date of first issue: 09.12.2019

---

### The components of this product are reported in the following inventories:

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

### 15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

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## SECTION 16: Other information

### Full text of H-Statements

H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H373	: May cause damage to organs through prolonged or repeated exposure if swallowed.
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.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## SIPP-ZN<sub>35</sub>MN<sub>25</sub>

Version 1.1	Revision Date: 17.09.2024	SDS Number: 50001896	Date of last issue: - Date of first issue: 09.12.2019
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Eye Dam.	: Serious eye damage
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE 2000/39/EC	: Specific target organ toxicity - repeated exposure : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
GB EH40 2000/39/EC / TWA	: UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / STEL	: Limit Value - eight hours
2017/164/EU / TWA	: Short term exposure limit
GB EH40 / TWA	: Limit Value - eight hours
GB EH40 / STEL	: Long-term exposure limit (8-hour TWA reference period)
	: Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECL - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Aquatic Chronic 1

H410

#### Classification procedure:

Calculation method

## SAFETY DATA SHEET

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