

## SAFETY DATA SHEET

Release Date: 14-04-2015

REF Number

**17255**

Name

**Zinc 55 mL (5x10+1x5)**

### COMPOSITION:

- 1) Zinc REAGENT A 10 mL (pag. 2)
- 2) Zinc REAGENT B 5 mL (pag. 8)
- 3) Zinc REAGENT C powder (pag. 14)
- 4) Zinc STANDARD 200 micro-grammi/dL 5 mL (pag. 19)

**Safety Data Sheet dated 14/4/2015, version 2****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

## 1.1. Product identifier

Mixture identification:

Trade name: Zinc REAGENT A 10 mL

Trade code: 27255A

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

Recommended use:

For In Vitro Diagnostic use only.

For professional users only.

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

Company:

SENTINEL CH. SpA - Via Robert Koch 2 - 20152 Milan - Italy

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 141 working time.

Competent person responsible for the safety data sheet:

customerservice@sentinel.it

## 1.4. Emergency telephone number

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 1495 working time: Mon-Fri 9.00 am - 1.00 pm, 2.00 pm - 6.00 pm

**SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:


Properties / Symbols:

Xi Irritant

R Phrases:

R36/38 Irritating to eyes and skin.

EC regulation criteria 1272/2008 (CLP)

Warning, Skin  Irrit. 2, Causes skin irritation.Warning, Eye  Irrit. 2, Causes serious eye irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

## 2.2. Label elements

Symbols:



Warning

Hazard statements:

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash thoroughly after handling.

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

Special Provisions:

None

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

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances  
N.A.

vPvB Substances: None - PBT Substances: None

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:


>= 0.5% - < 1% sodium hydroxide; caustic soda


Index number: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5  
C; R35

3.2/1A Skin  Corr. 1A H314

>= 0.1% - < 0.5% thiourea; thiocarbamide

Index number: 612-082-00-0, CAS: 62-56-6, EC: 200-543-5  
Carc. Cat. 3, Repr. Cat. 3, Xn, N; R22-40-51/53-63

3.6/2 Carc. 2  H351

3.7/2 Repr. 2  H361

4.1/C2 Aquatic  Chronic 2 H411

3.1/4/Oral  Acute Tox. 4 H302

### 4. FIRST AID MEASURES

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

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 under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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

### 5. FIRE-FIGHTING 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.

- 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.

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## 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

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## 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
  - 2 - 8°C
  - 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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. Control parameters
  - sodium hydroxide; caustic soda - CAS: 1310-73-2
  - TLV STEL - C 1,22 ppm - C 2 mg/m<sup>3</sup>
- DNEL Exposure Limit Values
  - N.A.
- PNEC Exposure Limit Values
  - N.A.
- 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

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance and colour:	Colourless liquid.
Odour:	Odorless
Odour threshold:	N.A.
pH:	8.6
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	1.113
Solubility in water:	Soluble
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

### 9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

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## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No hazardous reactions known.

### 10.2. Chemical stability

Stable when properly stored.

### 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.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Toxicological information of the mixture:

N.A.

Toxicological information of the main substances found in the mixture:

sodium hydroxide; caustic soda - CAS: 1310-73-2

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive

c) serious eye damage/irritation:

Test: Eye Corrosive - Species: Rabbit Positive

thiourea; thiocarbamide - CAS: 62-56-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 1750 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 2800 mg/kg

If not differently specified, the information required in Regulation 453/2010/EC 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.

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## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

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

Do not use when plants are in flower: the product is toxic for bees.

sodium hydroxide; caustic soda - CAS: 1310-73-2

Endpoint: LC50 - Species: Fish - Duration h: 96 - mg/l: N.A.

Endpoint: EC50 - Species: Daphnia - Duration h: 48 - mg/l: N.A.

thiourea; thiocarbamide - CAS: 62-56-6

Endpoint: LC50 - Species: Fish - Duration h: 96 - mg/l: N.A.

Endpoint: EC50 - Species: Daphnia - Duration h: 48 - mg/l: N.A.

Endpoint: N.A. Species: Algae - Duration h: 72 - mg/l: N.A.

### 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

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## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

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## 14. TRANSPORT INFORMATION

### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

### 14.2. UN proper shipping name

N.A.

### 14.3. Transport hazard class(es)

N.A.

### 14.4. Packing group

N.A.

### 14.5. Environmental hazards

N.A.

### 14.6. Special precautions for user

N.A.

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

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## 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC  
(Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical

agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n.1272/2008 (CLP), Regulation (CE) n.790/2009.

Where applicable, refer to the following regulatory provisions :

- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
- Regulation (EC) nr 648/2004 (detergents).
- 1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

---

## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

- R22 Harmful if swallowed.
- R35 Causes severe burns.
- R40 Limited evidence of a carcinogenic effect.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R63 Possible risk of harm to the unborn child

- H314 Causes severe skin burns and eye damage.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H411 Toxic to aquatic life with long lasting effects.
- H302 Harmful if swallowed.

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
- SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
- CCNL - Appendix 1
- Insert further consulted bibliography

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.

**Safety Data Sheet dated 14/4/2015, version 2****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

## 1.1. Product identifier

Mixture identification:

Trade name: Zinc REAGENT B 5 mL

Trade code: 27255B

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

Recommended use:

For In Vitro Diagnostic use only.

For professional users only.

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

Company:

SENTINEL CH. SpA - Via Robert Koch 2 - 20152 Milan - Italy

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 141 working time.

Competent person responsible for the safety data sheet:

customerservice@sentinel.it

## 1.4. Emergency telephone number

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 1495 working time: Mon-Fri 9.00 am - 1.00 pm, 2.00 pm - 6.00 pm

**SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:


Properties / Symbols:

Xi Irritant

R Phrases:

R36/38 Irritating to eyes and skin.

EC regulation criteria 1272/2008 (CLP)

Warning, Skin  Irrit. 2, Causes skin irritation.Warning, Eye  Irrit. 2, Causes serious eye irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

## 2.2. Label elements

Symbols:



Warning

Hazard statements:

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash thoroughly after handling.

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

Special Provisions:

None

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



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances  
N.A.

vPvB Substances: None - PBT Substances: None

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:


>= 0.5% - < 1% sodium hydroxide; caustic soda


Index number: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5  
C; R35

3.2/1A Skin  Corr. 1A H314

>= 0.1% - < 0.5% thiourea; thiocarbamide

Index number: 612-082-00-0, CAS: 62-56-6, EC: 200-543-5  
Carc. Cat. 3, Repr. Cat. 3, Xn, N; R22-40-51/53-63

3.6/2 Carc. 2  H351

3.7/2 Repr. 2  H361

4.1/C2 Aquatic  Chronic 2 H411

3.1/4/Oral  Acute Tox. 4 H302

### 4. FIRST AID MEASURES

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

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 under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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

### 5. FIRE-FIGHTING 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.

- 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.

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## 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

---

## 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  
2 - 8°C  
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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. Control parameters  
sodium hydroxide; caustic soda - CAS: 1310-73-2  
TLV STEL - C 1,22 ppm - C 2 mg/m<sup>3</sup>  
DNEL Exposure Limit Values  
N.A.  
PNEC Exposure Limit Values  
N.A.
- 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

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance and colour:	Purple liquid
Odour:	Odorless
Odour threshold:	N.A.
pH:	8.6
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	1.017
Solubility in water:	Soluble
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

### 9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

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## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No hazardous reactions known.

### 10.2. Chemical stability

Stable when properly stored.

### 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.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Toxicological information of the mixture:

N.A.

Toxicological information of the main substances found in the mixture:

sodium hydroxide; caustic soda - CAS: 1310-73-2

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive

c) serious eye damage/irritation:

Test: Eye Corrosive - Species: Rabbit Positive

thiourea; thiocarbamide - CAS: 62-56-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 1750 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 2800 mg/kg

If not differently specified, the information required in Regulation 453/2010/EC 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.

---

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

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

Do not use when plants are in flower: the product is toxic for bees.

sodium hydroxide; caustic soda - CAS: 1310-73-2

Endpoint: LC50 - Species: Fish - Duration h: 96 - mg/l: N.A.

Endpoint: EC50 - Species: Daphnia - Duration h: 48 - mg/l: N.A.

thiourea; thiocarbamide - CAS: 62-56-6

Endpoint: LC50 - Species: Fish - Duration h: 96 - mg/l: N.A.

Endpoint: EC50 - Species: Daphnia - Duration h: 48 - mg/l: N.A.

Endpoint: N.A. Species: Algae - Duration h: 72 - mg/l: N.A.

### 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

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## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

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## 14. TRANSPORT INFORMATION

### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

### 14.2. UN proper shipping name

N.A.

### 14.3. Transport hazard class(es)

N.A.

### 14.4. Packing group

N.A.

### 14.5. Environmental hazards

N.A.

### 14.6. Special precautions for user

N.A.

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

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## 15. REGULATORY INFORMATION

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

Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC

(Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical

agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n.1272/2008 (CLP), Regulation (CE) n.790/2009.

Where applicable, refer to the following regulatory provisions :

- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
- Regulation (EC) nr 648/2004 (detergents).
- 1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

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## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

- R22 Harmful if swallowed.
- R35 Causes severe burns.
- R40 Limited evidence of a carcinogenic effect.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R63 Possible risk of harm to the unborn child

- H314 Causes severe skin burns and eye damage.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H411 Toxic to aquatic life with long lasting effects.
- H302 Harmful if swallowed.

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
- SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
- CCNL - Appendix 1
- Insert further consulted bibliography

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.

**Safety Data Sheet dated 14/4/2015, version 2****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

## 1.1. Product identifier

Identification of the substance:

Trade name: Zinc REAGENT C powder

Trade code: 27255C

CAS number: 50-81-7

The transition time according to REACH Regulation, Article 23 is still not expired.

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

Recommended use:

For In Vitro Diagnostic use only.

For professional users only.

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

Company:

SENTINEL CH. SpA - Via Robert Koch 2 - 20152 Milan - Italy

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 141 working time.

Competent person responsible for the safety data sheet:

customerservice@sentinel.it

## 1.4. Emergency telephone number

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 1495 working time: Mon-Fri 9.00 am - 1.00 pm, 2.00 pm - 6.00 pm

**SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:

Properties / Symbols:

None.

EC regulation criteria 1272/2008 (CLP)

The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Adverse physicochemical, human health and environmental effects:

No other hazards

## 2.2. Label elements

Symbols:

None

Hazard statements:

None

Precautionary statements:

None

Special Provisions:

None

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

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical characterization: Zinc REAGENT C powder

## 3.1. Substances

Identification of the substance:

Trade name: Zinc REAGENT C powder

Trade code: 27255C

CAS number: 50-81-7

## 3.2. Mixtures

---

#### 4. FIRST AID MEASURES

##### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing. If eye irritation persists: Get medical advice/attention.

In case of Ingestion:

Get Medical advice/attention if you feel unwell.

In case of Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

None

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

Treatment:

None

---

#### 5. FIRE-FIGHTING 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.

##### 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.

---

#### 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

---

#### 7. HANDLING AND STORAGE

##### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

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

2 - 8°C

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

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. Control parameters  
No occupational exposure limit available  
DNEL Exposure Limit Values  
N.A.  
PNEC Exposure Limit Values  
N.A.
- 8.2. Exposure controls  
Eye protection:  
Not needed for normal use. Anyway, operate according good working practices.  
Protection for skin:  
No special precaution must be adopted for normal use.  
Protection for hands:  
Not needed for normal use.  
Respiratory protection:  
Not needed for normal use.  
Thermal Hazards:  
None  
Environmental exposure controls:  
None

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1. Information on basic physical and chemical properties
- |   |              |
|---|--------------|
| Appearance and colour:                        | White powder |
| Odour:  | Odorless     |
| Odour threshold:                              | N.A.         |
| pH:   | N.A.         |
| Melting point / freezing point:               | N.A.         |
| Initial boiling point and boiling range:      | N.A.         |
| Solid/gas flammability:                       | N.A.         |
| Upper/lower flammability or explosive limits: | N.A.         |
| Vapour density:                               | N.A.         |
| Flash point:                                  | N.A.         |
| Evaporation rate:                             | N.A.         |
| Vapour pressure:                              | N.A.         |
| Relative density:                             | N.A.         |
| Solubility in water:                          | Soluble      |
| Solubility in oil:                            | N.A.         |
| Partition coefficient (n-octanol/water):      | N.A.         |
| Auto-ignition temperature:                    | N.A.         |
| Decomposition temperature:                    | N.A.         |
| Viscosity:                                    | N.A.         |
| Explosive properties:                         | N.A.         |
| Oxidizing properties:                         | N.A.         |
- 9.2. Other information
- |                                      |      |
|--------------------------------------|------|
| Miscibility:                         | N.A. |
| Fat Solubility:                      | N.A. |
| Conductivity:                        | N.A. |
| Substance Groups relevant properties | N.A. |

---

## 10. STABILITY AND REACTIVITY

- 10.1. Reactivity  
No hazardous reactions known.
- 10.2. Chemical stability  
Stable when properly stored.
- 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.

---

## 11. TOXICOLOGICAL INFORMATION

- 11.1. Information on toxicological effects  
Toxicological information of the substance:  
REATTIVO RIDUCENTE - CAS: 50-81-7  
a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat 11900 mg/kg

Set out below is the toxicological information relating to the substance:  
If not differently specified, the information required in Regulation 453/2010/EC 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.

---

## 12. ECOLOGICAL INFORMATION

- 12.1. Toxicity  
Adopt good working practices, so that the product is not released into the environment.  
Do not use when plants are in flower: the product is toxic for bees.  
N.A.
- 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

---

## 13. DISPOSAL CONSIDERATIONS

- 13.1. Waste treatment methods  
Recover if possible. In so doing, comply with the local and national regulations currently in force.

---

## 14. TRANSPORT INFORMATION

- 14.1. UN number  
Not classified as dangerous in the meaning of transport regulations.
- 14.2. UN proper shipping name  
N.A.
- 14.3. Transport hazard class(es)  
N.A.
- 14.4. Packing group  
N.A.
- 14.5. Environmental hazards  
N.A.
- 14.6. Special precautions for user  
N.A.
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

---

**15. REGULATORY INFORMATION**

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC  
(Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical  
agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n.  
1907/2006 (REACH), Regulation (CE) n.1272/2008 (CLP), Regulation (CE) n.790/2009.

Where applicable, refer to the following regulatory provisions :

Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.  
Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

---

**16. OTHER INFORMATION**

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

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

CCNL - Appendix 1

Insert further consulted bibliography

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.

**Safety Data Sheet dated 14/4/2015, version 2****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

## 1.1. Product identifier

Mixture identification:

Trade name: Zinc STANDARD 200 micro-grammi/dL 5 mL

Trade code: 27255S

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

Recommended use:

For In Vitro Diagnostic use only.

For professional users only.

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

Company:

SENTINEL CH. SpA - Via Robert Koch 2 - 20152 Milan - Italy

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 141 working time.

Competent person responsible for the safety data sheet:

customerservice@sentinel.it

## 1.4. Emergency telephone number

SENTINEL CH. SpA - Phone n. [(+39) 02 3455 1495 working time: Mon-Fri 9.00 am - 1.00 pm, 2.00 pm - 6.00 pm

**SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:

Properties / Symbols:

None.

EC regulation criteria 1272/2008 (CLP)

The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Adverse physicochemical, human health and environmental effects:

No other hazards

## 2.2. Label elements

The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Symbols:

None

Hazard statements:

None

Precautionary statements:

None

Special Provisions:

None

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

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

## 3.1. Substances

N.A.

vPvB Substances: None - PBT Substances: None

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:

None.

**4. FIRST AID MEASURES**

## 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing. If eye irritation persists: Get medical advice/attention.

In case of Ingestion:

Get Medical advice/attention if you feel unwell.

In case of Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

None

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

Treatment:

None

---

## 5. FIRE-FIGHTING 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.

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.

---

## 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

---

## 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

2 - 8°C

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

No occupational exposure limit available

#### DNEL Exposure Limit Values

N.A.

#### PNEC Exposure Limit Values

N.A.

### 8.2. Exposure controls

#### Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

#### Protection for skin:

No special precaution must be adopted for normal use.

#### Protection for hands:

Not needed for normal use.

#### Respiratory protection:

Not needed for normal use.

#### Thermal Hazards:

None

#### Environmental exposure controls:

None

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance and colour:	Colourless liquid
Odour:	Odorless
Odour threshold:	N.A.
pH:	N.A.
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	1.000
Solubility in water:	Soluble
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

### 9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

---

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No hazardous reactions known.

### 10.2. Chemical stability

Stable when properly stored.

### 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.

---

## 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information of the mixture:

N.A.

Toxicological information of the main substances found in the mixture:

N.A.

If not differently specified, the information required in Regulation 453/2010/EC 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.

---

## 12. ECOLOGICAL INFORMATION

12.1. Toxicity

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

Do not use when plants are in flower: the product is toxic for bees.

N.A.

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

---

## 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

---

## 14. TRANSPORT INFORMATION

14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

14.2. UN proper shipping name

N.A.

14.3. Transport hazard class(es)

N.A.

14.4. Packing group

N.A.

14.5. Environmental hazards

N.A.

14.6. Special precautions for user

N.A.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

---

## 15. REGULATORY INFORMATION

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

Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC (Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n.1272/2008 (CLP), Regulation (CE) n.790/2009.

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Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

---

## 16. OTHER INFORMATION

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

Main bibliographic sources:

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Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand  
Reinold  
CCNL - Appendix 1  
Insert further consulted bibliography

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.