

Reagent for NITRATE test - NIT - Zinc powder

Creation date	13th May 2015	Version	3.0
Revision date	15th January 2024		

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

1.1. Product identifier	Reagent for NITRATE test - NIT - Zinc powder
Substance / mixture	substance
Number	MLT00021
Chemical name	zinc powder - zinc dust (stabilised)
CAS number	7440-66-6
Index number	030-001-01-9
EC (EINECS) number	231-175-3
Other substance name	Činidlo pro NIT - R2, činidlo pro test NITRÁTY - NIT -Zinkový prach

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

Substance's intended use

NIT-Zinc powder is a part of kit Reagent for NITRATE test, which is supplementary preparation for diagnostic MIKRO-LA-TEST® kits, containing a test for the demonstration of the proof of reduction of nitrate or nitrite (NIT, Nitrate, NO₃ or Nitrite, NO₂) and it serves for the colour expression of those tests.

The use descriptors

PC 21 Laboratory chemicals

Substance uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Name or trade name	Erba Lachema s.r.o.
Address	Karásek 2219/1d , Brno, 62100 Czech Republic
Identification number (CRN)	26918846
VAT Reg No	CZ26918846
Phone	+420 517 077 111
E-mail	msds@erba.com
Web address	www.erbalachema.com

Competent person responsible for the safety data sheet

Name	Erba Lachema s.r.o.
E-mail	msds@erba.com

1.4. Emergency telephone number

European emergency number: 112 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Aquatic Acute 1, H400
Aquatic Chronic 1, H410

Most serious adverse effects on human health and the environment

Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram



Signal word

Warning

Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements

P260 Do not breathe dust.
P273 Avoid release to the environment.

2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Dust may form explosive mixture with air.

SECTION 3: Composition/information on ingredients**3.1. Substances****Chemical characterization**

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 030-001-01-9 CAS: 7440-66-6 EC: 231-175-3	substance main component zinc powder - zinc dust (stabilised)	100	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures**

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes.

If swallowed

Rinse out the mouth with clean water. In the event of issues, find medical help.

4.2. Most important symptoms and effects, both acute and delayed**If inhaled**

irritant effects, pain, fever, cardiovascular disorders, muscle symptoms.

If on skin

Skin irritation.

If in eyes

Irritation.

If swallowed

nausea, vomiting

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

Symptomatic treatment.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Special powder for burnig metals. Sand, cement.

Unsuitable extinguishing media

Water, foam.

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5.2. Special hazards arising from the substance or mixture

Zinc/zinc oxides. Flammable. In the event of a fire, hazardous flammable gases or vapors may be generated.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Observe the principles of work safety in chemical laboratories. Avoid dust formation, do not breathe.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains.

6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment. Observe the normal operating procedures for handling chemical substances and mixtures.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

Storage class

11 - Other combustible solids

Storage temperature

min 2 °C, max 8 °C

7.3. Specific end use(s)

For in vitro diagnostic devices.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

none

8.2. Exposure controls

Sufficient ventilation.

Eye/face protection

Protective goggles.

Skin protection

Hand protection: Protective gloves resistant to the product (nitrile rubber). Contaminated skin should be washed thoroughly. Full contact: Material: Nitrile rubber, minimum layer thickness: 0.11 mm, Penetration time: 480 min

Respiratory protection

Respiratory protection is essential when dust is generated. Recommended filter type: Filter P 1 (according to DIN 3181) for solid particles of inert compounds. Not required with adequate ventilation.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2. Collect spillage.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state

solid

Colour

grey, metal

Odour

without fragrance

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Melting point/freezing point	411 °C
Boiling point or initial boiling point and boiling range	908 °C
Flammability	The product is non-flammable.
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	420 °C
pH	data not available
Kinematic viscosity	data not available
Solubility in water	0.0001 g/l při 20°C
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	1.33 hPa at 487 °C
Density and/or relative density	
Density	data not available
Relative density	7.14 g-cm-3 (20°C)
Relative vapour density	data not available
Particle characteristics	data not available

9.2. Other information

Appearance	powder
Ignition temperature	460 °C
Explosive properties	The product does not have explosive properties but can be explosive when blended with air.

SECTION 10: Stability and reactivity
10.1. Reactivity

Dust explosion hazard.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Alkaline hydroxides, Fluorine, Carbon sulfide, Halogen-halogen compounds, Acids, Bases, Chlorine, Moisture.

Danger of explosion with: Ammonia compounds, Azides, Chlorates, Metal catalysts, Nitric acid, Hydroxylamine, Hydrazine and its derivatives, Halogenated hydrocarbon, Hydrogen, Nitrates, Peroxides, Cadmium, Chromium oxide, Peroxide compounds, Nitro compounds, Performic acid, Oxidizing agents, Sulfur, Iodine, Water.

Danger of ignition or generation of flammable gases or vapors with: Arsenic oxides, Sodium hydroxide, Tellurium, selenium.

10.4. Conditions to avoid

Exposure to moisture.

10.5. Incompatible materials

Unknown.

10.6. Hazardous decomposition products

Not developed under normal uses.

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

Acute toxicity

Based on available data the classification criteria are not met.

zinc powder - zinc dust (stabilised)					
Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD ₅₀	>2000 mg/kg		Rat (Rattus norvegicus)	F/M

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zinc powder - zinc dust (stabilised)

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Inhalation (dust/mist)	LC ₅₀	>5.41 mg/l	4 hours	Rat (<i>Rattus norvegicus</i>)	F/M

Skin corrosion/irritation

Based on available data the classification criteria are not met.

zinc powder - zinc dust (stabilised)

Route of exposure	Result	Exposure time	Species
Skin	Not irritating	5 days	Rabbit

Serious eye damage/irritation

Based on available data the classification criteria are not met.

zinc powder - zinc dust (stabilised)

Route of exposure	Result	Exposure time	Species
Eye	Not irritating	24 hours	Rabbit

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

zinc powder - zinc dust (stabilised)

Route of exposure	Result	Exposure time	Species	Sex
	Negative		Guinea-pig (<i>Cavia aperea f. porcellus</i>)	

Germ cell mutagenicity

No data available for the substance. Based on available data the classification criteria are not met.

Carcinogenicity

No data available for the substance. Based on available data the classification criteria are not met.

Reproductive toxicity

No data available for the substance. Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

No data available for the substance. Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

No data available for the substance. Based on available data the classification criteria are not met.

Aspiration hazard

No data available for the substance. Based on available data the classification criteria are not met.

11.2. Information on other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Repeated Dose Toxicity - Rat - Male and Female - Oral - 13 Weeks - No Adverse Effect Exposure Level - 31.52 mg/kg - Lowest Adverse Effect Exposure Level - 53.8 mg/kg Ingestion may lead to consequences such as: chills, dry throat, sweet taste, Fever, Cough, Nausea, Vomiting, Weakness, Contact with eyes or skin may cause: Irritation. To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

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SECTION 12: Ecological information**12.1. Toxicity**

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Acute toxicity

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Parameter	Value	Exposure time	Species	Environment
LC ₅₀	0.450 mg/kg	96 hours	Fish	
LC ₅₀	0.068 mg/kg	48 hours	Daphnia (Daphnia magna)	

zinc powder - zinc dust (stabilised)				
Parameter	Value	Exposure time	Species	Environment
LC ₅₀	0.439 mg/l	96 hours	Fish	
EC ₅₀	0.155 mg/l	48 hours	Daphnia (Ceriodaphnia dubia)	
NOEC	0.05 mg/l	3 days	Algae (Pseudokirchneriella subcapitata)	
NOEC	0.1 mg/l	4 days	Aquatic microorganisms	

Chronic toxicity

zinc powder - zinc dust (stabilised)				
Parameter	Value	Exposure time	Species	Environment
NOEC	0.169 mg/l	30 days	Fish	
NOEC	0.1 mg/l	3 weeks	Daphnia (Daphnia magna)	

12.2. Persistence and degradability

Biodegradability determination methods are not applicable for inorganic substances.

12.3. Bioaccumulative potential

The substance is not considered to be persistent, bioaccumulative or toxic (PBT).

12.4. Mobility in soil

No data available for the substance.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100.

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

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Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended.
Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

16 05 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

Packaging waste type code

15 01 10* packaging containing residues of or contaminated by hazardous substances

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information**14.1. UN number or ID number**

UN 1436

14.2. UN proper shipping name

ZINC POWDER

14.3. Transport hazard class(es)

4.3 Substances which, with contact with water, emit flammable gases

14.4. Packing group

III

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

not available

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Hazard identification No.

423

UN number

1436

Classification code

WS

Safety signs

4.3+4.2+hazardous for the environment



Tunnel restriction code

(E)

Air transport - ICAO/IATA

Packaging instructions passenger

486

Cargo packaging instructions

491

Marine transport - IMDG

EmS (emergency plan)

F-G, S-O

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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information**A list of standard risk phrases used in the safety data sheet**

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe dust.
P273	Avoid release to the environment.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD ₅₀	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million

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REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Aquatic Acute	Hazardous to the aquatic environment
Aquatic Chronic	Hazardous to the aquatic environment (chronic)

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

For in vitro diagnostic use only.

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 3.0 replaces the SDS version from 04 March 2019. Changes were made in sections 1, 2, 11, 12, 13, 15 and 16.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.