

## Safety Data Sheet

according to UK REACH Regulation

### Multielement-Standardlösung Abwasser 7 Elemente je 1000 mg/l in Salpetersäure 2%

Revision date: 28.11.2023

Product code: 22363

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

### 1.1. Product identifier

Multielement-Standardlösung Abwasser 7 Elemente je 1000 mg/l in Salpetersäure 2%

UFI: NYWY-W18M-U003-PD0Y

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

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

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

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

inapplicable, this product is a mixture REACH registration number see section 3

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GB CLP Regulation

Met. Corr. 1; H290  
Skin Irrit. 2; H315  
Eye Irrit. 2; H319  
Skin Sens. 1; H317  
Carc. 1A; H350i  
STOT RE 2; H373  
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### GB CLP Regulation

#### Hazard components for labelling

nickel dinitrate

Signal word: Danger

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#### Pictograms:



#### Hazard statements

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H350i	May cause cancer by inhalation.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Special labelling of certain mixtures

Restricted to professional users.

#### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

Mixtures in aqueous solution

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**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7697-37-2	nitric acid			1 - < 5 %
	231-714-2	007-030-00-3	01-2119487297-23	
	Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071			
10031-43-3	Copper(II) nitrate trihydrate			< 1 %
			01-2119969290-34	
	Ox. Sol. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1; H272 H302 H315 H319 H400 H410			
13138-45-9	nickel dinitrate			< 1 %
	236-068-5	028-012-00-1	01-2119492333-38	
	Ox. Sol. 2, Carc. 1A, Muta. 2, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H350i H341 H360D H332 H302 H315 H318 H334 H317 H372 H400 H410			
10022-31-8	bariumnitrat			< 1 %
	233-020-5	056-002-00-7		
	Ox. Sol. 2, Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2; H272 H301 H332 H319			
10099-74-8	lead dinitrate			< 1 %
	233-245-9	082-001-00-6		
	Repr. 1A, Acute Tox. 4, Acute Tox. 4, Eye Dam. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H360Df H332 H302 H318 H373 H400 H410			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7697-37-2	231-714-2	nitric acid	1 - < 5 %
		inhalation: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 - 100 Skin Corr. 1B; H314: >= 5 - < 20	
10031-43-3		Copper(II) nitrate trihydrate	< 1 %
		oral: ATE = 500 mg/kg	
13138-45-9	236-068-5	nickel dinitrate	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = 361,9 mg/kg Skin Irrit. 2; H315: >= 20 - 100 Skin Sens. 1; H317: >= 0,01 - 100 STOT RE 1; H372: >= 1 - 100 STOT RE 2; H373: >= 0,1 - < 1 Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1	
10022-31-8	233-020-5	bariumnitrat	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = > 50 - < 300 mg/kg	
10099-74-8	233-245-9	lead dinitrate	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg Repr. 2; H361f: >= 2,5 - 100 STOT RE 2; H373: >= 0,5 - 100	

**Further Information**

No data available

**SECTION 4: First aid measures**

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

##### **General information**

No data available

##### **After inhalation**

Provide fresh air.

Call a physician immediately.

##### **After contact with skin**

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

##### **After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

##### **After ingestion**

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Irritant

Methaemoglobinaemia

Allergic reactions

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

No data available

## SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

##### **Unsuitable extinguishing media**

no restriction

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

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NOx)

#### **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

##### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

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#### General advice

Corrosive to metals.

#### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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

##### For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Use personal protection equipment.

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol. Use extractor hood (laboratory).

##### Advice on protection against fire and explosion

No special fire protection measures are necessary.

##### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take

a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe

vapour/aerosol.

##### Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

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

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**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Unsuitable container/equipment material: Metal.

**Hints on joint storage**

national regulations

**Further information on storage conditions**

Keep container dry.

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL

**DNEL/DMEL values**

CAS No	Substance	DNEL type	Exposure route	Effect	Value
13138-45-9	nickel dinitrate	Consumer DNEL, acute	oral	systemic	0,012 mg/kg bw/day
		Consumer DNEL, long-term	oral	systemic	0,02 mg/kg bw/day
		Worker DNEL, acute	inhalation	systemic	104 mg/m <sup>3</sup>
		Worker DNEL, acute	inhalation	local	1,6 mg/m <sup>3</sup>
		Consumer DNEL, acute	inhalation	systemic	8,8 mg/m <sup>3</sup>
		Consumer DNEL, acute	inhalation	local	0,1 mg/m <sup>3</sup>
10022-31-8	bariumnitrat	Worker DNEL, long-term	inhalation	systemic	2,73 mg/m <sup>3</sup>
		Worker DNEL, long-term	dermal	systemic	8,141 mg/kg bw/day
		Consumer DNEL, long-term	inhalation	systemic	0,67 mg/m <sup>3</sup>
		Consumer DNEL, long-term	dermal	systemic	4,07 mg/kg bw/day
		Consumer DNEL, long-term	oral	systemic	0,58 mg/kg bw/day

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#### PNEC values

CAS No	Substance	Value
Environmental compartment		
10031-43-3	Copper(II) nitrate trihydrate	
Freshwater		0,0078 mg/l
Marine water		0,0052 mg/l
Freshwater sediment		87 mg/kg
Marine sediment		676 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,23 mg/l
Soil		65 mg/kg
13138-45-9	nickel dinitrate	
Freshwater		0,0071 mg/l
Freshwater (intermittent releases)		0 mg/l
Marine water		0,0086 mg/l
Freshwater sediment		109 mg/kg
Marine sediment		109 mg/kg
Secondary poisoning		0,12 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,33 mg/l
Soil		29,9 mg/kg
10022-31-8	bariumnitrat	
Freshwater		0,115 mg/l
Freshwater sediment		600 mg/kg
Micro-organisms in sewage treatment plants (STP)		62,2 mg/l
Soil		207,7 mg/kg
10099-74-8	lead dinitrate	
Freshwater		0,0065 mg/l
Marine water		0,0034 mg/l
Freshwater sediment		174 mg/kg
Marine sediment		164 mg/kg
Secondary poisoning		10,9 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		147 mg/kg

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the

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supplier of these gloves.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

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

Physical state:	Liquid	
Colour:	dark blue	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		not determined
pH-Value:		<1
Viscosity / kinematic:		No data available
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		No data available
Vapour pressure:		No data available

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Density:	1,0276 g/cm <sup>3</sup>
Bulk density:	No data available
Relative vapour density:	not determined

#### **9.2. Other information**

##### **Information with regard to physical hazard classes**

Explosive properties	No data available
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

##### **Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	0
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

##### **Further Information**

Corrosive to metals.

## **SECTION 10: Stability and reactivity**

### **10.1. Reactivity**

Corrosive to metals.

### **10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

### **10.3. Possibility of hazardous reactions**

Alkali (lye)

### **10.4. Conditions to avoid**

none

### **10.5. Incompatible materials**

Keep away from: Metal.

### **10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

#### **Further information**

No data available

## **SECTION 11: Toxicological information**

### **11.1. Information on hazard classes as defined in GB CLP Regulation**

#### **Toxicokinetics, metabolism and distribution**

There are no data available on the preparation/mixture itself.

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**Acute toxicity**

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

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
10031-43-3	Copper(II) nitrate trihydrate				
	oral	ATE 500 mg/kg			
13138-45-9	nickel dinitrate				
	oral	LD50 361,9 mg/kg	Rat	Regul Toxicol and Pharmacol (doi.org/10.	OECD Guideline 425
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
10022-31-8	bariumnitrat				
	oral	LD50 > 50 - < 300 mg/kg	Rat	Study report (2013)	OECD Guideline 423
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
10099-74-8	lead dinitrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye irritation.

**Sensitising effects**

May cause an allergic skin reaction. (nickel dinitrate)

**Carcinogenic/mutagenic/toxic effects for reproduction**

May cause cancer by inhalation. (nickel dinitrate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

**STOT-single exposure**

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

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (nickel dinitrate)

**Aspiration hazard**

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

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

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#### Additional information on tests

There are no data available on the preparation/mixture itself.

#### Practical experience

There are no data available on the preparation/mixture itself.

#### 11.2. Information on other hazards

##### Other information

There are no data available on the preparation/mixture itself.

##### Further information

There are no data available on the preparation/mixture itself.

### SECTION 12: Ecological information

#### 12.1. Toxicity

There are no data available on the mixture itself.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7697-37-2	nitric acid					
	Acute fish toxicity	LC50 mg/l	1559	96 h	Topeka shiner	Environmental Toxicology and Chemistry, other: ASTM E729-26
	Fish toxicity	NOEC	268 mg/l	30 d	juvenile Topeka shiner and with juvenile Fathead m	Study report (2009) Growth tests estimated the test chemical
	Algae toxicity	NOEC	> 419 mg/l	10 d	several benthic diatoms; see results	Marine Biology 43:307-315 (1977) Ten cultures of benthic diatoms were iso
	Acute bacteria toxicity	EC50	> 1000 mg/l ( )	3 h	Activated sludge	Study report (2008) OECD Guideline 209
10031-43-3	Copper(II) nitrate trihydrate					
	Acute fish toxicity	LC50	0,193 mg/l	96 h	Pimephales promelas	Study report (1996) measurements were conducted by standard
	Acute algae toxicity	ErC50	0,152 mg/l	72 h	Pseudokirchneriella subcapitata	Publication (2005) OECD Guideline 201
	Acute crustacea toxicity	EC50	0,007 mg/l	48 h	Daphnia magna	Study report (1978) - Test were conducted on Daphnia magna t
	Fish toxicity	NOEC	0,123 mg/l	12 d	Atherinops affinis	Mar. Environ. Res. 31: 17-35 (1991) Three tests are reported, designed to de
	Algae toxicity	NOEC	0,0102 mg/l	19 d	other aquatic plant: giant kelp Macrocystis pyrife	Mar. Ecol. Prog. Ser. 68: 147 - 156 (199) Tests were conducted to determine the ef
	Crustacea toxicity	NOEC	0,033 mg/l	14 d	Penaeus mergulensis and Penaeus monodon	Bull. Environ. Contain. Toxicol. (1995) The effects of dissolved copper on the g
13138-45-9	nickel dinitrate					
	Acute fish toxicity	LC50	15,3 mg/l	96 h	Oncorhynchus mykiss	Aquatic Toxicology 63 (2003) 65-82 (2003) other: not reported
	Acute algae toxicity	ErC50	0,237 mg/l	72 h	Ankistrodesmus falcatus	Publication (2009) OECD Guideline 201
	Acute crustacea toxicity	EC50	0,2663 mg/l	48 h	Ceriodaphnia dubia	Study report (2004) other: American society of testing and m
	Fish toxicity	NOEC	0,057 mg/l	32 d	Pimephales promelas	Water Resources Research Institute. Kent other: ASTM 1980, E-729
	Algae toxicity	NOEC	0,6 mg/l	14 d	Anabaena cylindrica	Environ. Pollut. (Series A). 25(4):241-2 other: not reported
	Crustacea toxicity	NOEC	0,04 mg/l	42 d	Daphnia magna	Wat. Res. 24(7):845-852 (1990) Chronic exposure to sublethal concentrat
	Acute bacteria toxicity	EC50	33 mg/l ( )	0,5 h	Activated sludge	Journal of Hazardous Materials. B139:332 ISO 8192

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10022-31-8 bariumnitrat						
	Acute fish toxicity	LC50 mg/l	> 3,5	96 h	Danio rerio	Study report (2010) OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 1,15	72 h	Pseudokirchneriella subcapitata	Study report (2010) OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	14,5	48 h	Daphnia magna	Journal of the Fisheries Research Board Not a guideline study but meets generell
	Fish toxicity	NOEC mg/l	>= 100	33 d	Danio rerio	Study report (2014) OECD Guideline 210
	Crustacea toxicity	NOEC	2,9 mg/l	21 d	Daphnia magna	Journal of the Fisheries Research Board The test did not exactly follow an existi
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	3 h	activated sludge of a predominantly domestic sewage	Study report (2010) OECD Guideline 209
10099-74-8 lead dinitrate						
	Acute fish toxicity	LC50 mg/l	1,17	96 h	Oncorhynchus mykiss	Publication (1976) Acute bioassays
	Acute algae toxicity	ErC50 mg/l	0,123	72 h	Pseudokirchneriella subcapitata	Study report (2008) OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,59683	48 h	Ceriodaphnia dubia	Study report (2007) other: USEP
	Fish toxicity	NOEC mg/l	0,087	62 d	Oncorhynchus mykiss	Publication (2008) methods adapted from the standard guide
	Crustacea toxicity	NOEC mg/l	0,099	7 d	Ceriodaphnia dubia	Publication (1995) chronic toxicity testing of lead to aqua

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**BCF**

CAS No	Chemical name	BCF	Species	Source
10031-43-3	Copper(II) nitrate trihydrate	0,02 - 20	Crangon crangon	Symp. Biologica. Hun
13138-45-9	nickel dinitrate	23	Spirodela polyrhiza	Ecotoxicology and en
10022-31-8	bariumnitrat	68,4	Lepomis macrochirus	Archives of Environm
10099-74-8	lead dinitrate	3250	Hyalella azteca	Hydrobiologia 259: 7

**12.4. Mobility in soil**

There are no data available on the mixture itself.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.  
Harmful effect due to pH shift.  
Forms corrosive mixtures with water even if diluted.

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**Further information**

Do not allow to enter into surface water or drains.

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

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 2031
<b>14.2. UN proper shipping name:</b>	NITRIC ACID
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8
Classification code:	C1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 2031
<b>14.2. UN proper shipping name:</b>	NITRIC ACID
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8
Classification code:	C1
Limited quantity:	1 L
Excepted quantity:	E2

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 2031
<b>14.2. UN proper shipping name:</b>	NITRIC ACID
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 2031
<b>14.2. UN proper shipping name:</b>	NITRIC ACID
<b>14.3. Transport hazard class(es):</b>	8

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<b>14.4. Packing group:</b>	II	
Hazard label:	8	
Special Provisions:	A212	
Limited quantity Passenger:	Forbidden	
Passenger LQ:	Forbidden	
Excepted quantity:	E0	
IATA-packing instructions - Passenger:		Forbidden
IATA-max. quantity - Passenger:		Forbidden
IATA-packing instructions - Cargo:		855
IATA-max. quantity - Cargo:		30 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

Warning: strongly corrosive.

#### 14.7. Maritime transport in bulk according to IMO instruments

not applicable

## SECTION 15: Regulatory information

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

#### EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):  
lead dinitrate

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 27, Entry 63, Entry 75

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

#### National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 9.

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#### Abbreviations and acronyms

Ox. Liq: Oxidising liquids  
 Ox. Sol: Oxidising solids  
 Met. Corr: Corrosive to metals  
 Acute Tox: Acute toxicity  
 Skin Corr: Skin corrosion  
 Skin Irrit: Skin irritation  
 Eye Dam: Eye damage  
 Eye Irrit: Eye irritation  
 Resp. Sens: Respiratory sensitisation  
 Skin Sens: Skin sensitisation  
 Muta: Germ cell mutagenicity  
 Carc: Carcinogenicity  
 Repr: Reproductive toxicity  
 STOT RE: Specific target organ toxicity - repeated exposure  
 Aquatic Acute: Acute aquatic hazard  
 Aquatic Chronic: Chronic aquatic hazard  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route  
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%

#### Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360D	May damage the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of

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processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*