



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Custom ICP-ICP/MS Standard (AQ0-310-222)**

Revision: 30.12.2025

Product code: AC18.23212

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**SECTION 2: Hazards identification**

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

**Regulation (EC) No 1272/2008**

- Met. Corr. 1; H290
- Carc. 1A; H350
- Acute Tox. 4; H332
- Skin Corr. 1B; H314
- Eye Dam. 1; H318
- Skin Sens. 1; H317
- STOT RE 2; H373
- Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

**2.2. Label elements**

**Regulation (EC) No 1272/2008**

**Hazard components for labelling**

- nitric acid
- Beryllium acetate
- "diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"
- thallium nitrate
- cobalt
- nickel
- cadmium

**Signal word:** Danger

**Pictograms:**



**Hazard statements**

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- H350 May cause cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.
- EUH071 Corrosive to the respiratory tract.

**Precautionary statements**

- P264 Wash hands thoroughly after handling.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing and eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.

**Special labelling**

Restricted to professional users.

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#### 2.3. Other hazards

No data 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 (Regulation (EC) No 1272/2008)			
7697-37-2	nitric acid			5 - < 10 %
	231-714-2	007-030-00-3	01-2119487297-23	
	Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A, Eye Dam. 1; H272 H290 H331 H314 H318 EUH071			
19049-40-2	Beryllium acetate			1 - < 5 %
	-	004-002-00-2		
	Carc. 1B, Acute Tox. 2, Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, STOT RE 1, Aquatic Chronic 2; H350i H330 H301 H315 H319 H317 H335 H372 H411			
7803-55-6	ammonium trioxovanadate			< 1 %
	232-261-3			
	Repr. 2, Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2, STOT RE 1, Aquatic Chronic 2; H361d H301 H332 H319 H372 H411			
12044-50-7	"diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"			< 1 %
		033-004-00-6		
	Carc. 1A, Acute Tox. 3, Acute Tox. 3, Aquatic Acute 1, Aquatic Chronic 1; H350 H331 H301 H400 H410			
10099-74-8	lead dinitrate			< 0.5 %
	233-245-9	082-001-00-6		
	Ox. Sol. 2, Repr. 1A, Acute Tox. 4, Acute Tox. 4, Eye Dam. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H272 H360Df H332 H302 H318 H373 H400 H410			
7789-18-6	Caesium nitrate			< 1 %
	Ox. Sol. 1, Repr. 2, Acute Tox. 4; H271 H361f H302			
10102-45-1	thallium nitrate			< 1 %
	233-273-1	081-002-00-9		
	Acute Tox. 2, Acute Tox. 2, STOT RE 2, Aquatic Chronic 2; H330 H300 H373 H411			
7440-66-6	zinc			< 1 %
	231-175-3			
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
7440-48-4	cobalt			< 1 %
	231-158-0	027-001-00-9		
	Carc. 1B, Muta. 2, Repr. 1B, Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H350 H341 H360F H334 H317 H413			
7782-49-2	selenium			< 1 %
	231-957-4	034-001-00-2		
	Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Chronic 4; H331 H301 H373 H413			
7440-02-0	nickel			< 1 %
	231-111-4	028-002-00-7		
	Flam. Sol. 2, Carc. 2, Skin Sens. 1, STOT RE 1, Aquatic Chronic 3; H228 H351 H317 H372 H412			
7440-43-9	cadmium			< 1 %
	231-152-8	048-002-00-0		
	Carc. 1B, Muta. 2, Repr. 2, Acute Tox. 2, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H350 H341 H361fd H330 H372 H400 H410			

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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	5 - < 10 %
		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	
19049-40-2	-	Beryllium acetate	1 - < 5 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); oral: ATE = 100 mg/kg	
7803-55-6	232-261-3	ammonium trioxovanadate	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 2,61 mg/l (dusts or mists); dermal: LD50 = > 2500 mg/kg; oral: LD50 = 218,1 mg/kg	
12044-50-7		"diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: ATE = 100 mg/kg	
10099-74-8	233-245-9	lead dinitrate	< 0.5 %
		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	
7789-18-6		Caesium nitrate	< 1 %
		oral: ATE = 500 mg/kg	
10102-45-1	233-273-1	thallium nitrate	< 1 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); oral: ATE = 5 mg/kg	
7782-49-2	231-957-4	selenium	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: ATE = 100 mg/kg	
7440-43-9	231-152-8	cadmium	< 1 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists)	

**Further Information**

Contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: lead dinitrate; cadmium

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

Self-protection of the first aider

**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.

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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

Causes burns.

Irritant

#### 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 (NO<sub>x</sub>)

#### 5.3. Advice for firefighters

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

Avoid contact with skin, eyes and clothes.

#### Additional information

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

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

##### 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.

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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

Usual measures for fire prevention.

#### 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

#### Requirements for storage rooms and vessels

Corrosive to metals.

Unsuitable container/equipment material: Metal

The product develops hydrogen in an aqueous solution in contact with metals.

#### Hints on joint storage

To follow: National regulations

#### Further information on storage conditions

Keep container tightly closed.

### 7.3. Specific end use(s)

Laboratory chemicals

Only for laboratory and analysis purposes.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7440-43-9	Cadmium (Inhalable Fraction)	-	0.004		TWA (8 h)	
7440-48-4	Cobalt	-	0.02		TWA (8 h)	
7440-02-0	Nickel (inhalable fraction)	-	0,05		TWA (8 h)	
7440-02-0	Nickel (respirable fraction)	-	0,01		TWA (8 h)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	
7782-49-2	Selenium	-	0.1		TWA (8 h)	

**Biological limit values**

CAS No	Substance	Parameter	Value	Test material	Sampling time
7440-48-4	Cobalt	Cobalt	15 µg/L	Urine	End of shift at end of workweek
		Cobalt	1 µg/L	Blood	End of shift at end of workweek
7440-02-0	Nickel	Ni	3 µg/L	Urine	After several consecutive working shifts
7440-43-9	Cadmium	Cd	2 µg/g	Creatinine	Not critical

**DNEL/DMEL values**

CAS No	Substance	DNEL type	Exposure route	Effect	Value
7803-55-6	ammonium trixovanadate	Worker DNEL, long-term	inhalation	systemic	0,64 mg/m <sup>3</sup>
		Worker DNEL, long-term	inhalation	local	0,18 mg/m <sup>3</sup>
		Worker DNEL, acute	inhalation	local	0,92 mg/m <sup>3</sup>
		Consumer DNEL, long-term	inhalation	systemic	0,18 mg/m <sup>3</sup>
		Consumer DNEL, long-term	inhalation	local	0,11 mg/m <sup>3</sup>
		Consumer DNEL, acute	inhalation	local	0,57 mg/m <sup>3</sup>
		Consumer DNEL, long-term	oral	systemic	0,18 mg/kg bw/day
		Consumer DNEL, acute	oral	systemic	0,92 mg/kg bw/day
7782-49-2	selenium	Worker DNEL, long-term	inhalation	systemic	0,05 mg/m <sup>3</sup>
		Worker DNEL, long-term	dermal	systemic	7 mg/kg bw/day
		Consumer DNEL, long-term	inhalation	systemic	0,015 mg/m <sup>3</sup>
		Consumer DNEL, long-term	dermal	systemic	4,3 mg/kg bw/day
		Consumer DNEL, long-term	oral	systemic	0,0043 mg/kg bw/day

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**PNEC values**

CAS No	Substance	Value
Environmental compartment		
7803-55-6	ammonium trioxovanadate	
Freshwater		0,0076 mg/l
Freshwater (intermittent releases)		0,00693 mg/l
Marine water		0,0025 mg/l
Freshwater sediment		240 mg/kg
Marine sediment		79 mg/kg
Secondary poisoning		0,167 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,45 mg/l
Soil		7,2 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
7782-49-2	selenium	
Freshwater		0,00267 mg/l
Freshwater (intermittent releases)		0,0055 mg/l
Marine water		0,002 mg/l
Freshwater sediment		8,2 mg/kg
Marine sediment		6,2 mg/kg
Secondary poisoning		1 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,5 mg/l
Soil		0,1 mg/kg

**Additional advice on limit values**

Observe in addition any national regulations!

**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**

goggles

Wear eye/face protection.

**Hand protection**

Wear suitable gloves. 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 supplier of these gloves.

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#### Skin protection

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

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Thermal hazards

No data available

#### 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:	colourless	
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:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		No data available
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
No data available		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		No data available
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

### 9.2. Other information

#### Information with regard to physical hazard classes

Explosive properties

    No data available

Sustained combustibility:

No data available

Self-ignition temperature

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Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

**Other safety characteristics**

Evaporation rate:	No data available
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)

The product develops hydrogen in an aqueous solution in contact with metals.

**10.4. Conditions to avoid**

No data available

**10.5. Incompatible materials**

Cellulose

Metal

The product develops hydrogen in an aqueous solution in contact with metals.

**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 Regulation (EC) No 1272/2008**
**Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
19049-40-2	Beryllium acetate				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
7803-55-6	ammonium trioxovanadate				
	oral	LD50 218,1 mg/kg	Rat	Study report (1992)	OECD Guideline 401
	dermal	LD50 > 2500 mg/kg	Rat	Study report (1992)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 2,61 mg/l	Rat	Study report (1992)	OECD Guideline 403
12044-50-7	"diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 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			
7789-18-6	Caesium nitrate				
	oral	ATE 500 mg/kg			
10102-45-1	thallium nitrate				
	oral	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
7782-49-2	selenium				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
7440-43-9	cadmium				
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			

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**Irritation and corrosivity**

Skin corrosion/irritation: Causes severe skin burns and eye damage.  
 Serious eye damage/eye irritation: Causes serious eye damage.  
 Corrosive to the respiratory tract.

**Sensitising effects**

May cause an allergic skin reaction. (Beryllium acetate; cobalt; nickel)

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

May cause cancer. (Beryllium acetate; "diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"; cobalt; cadmium)  
 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. (Beryllium acetate)

**Aspiration hazard**

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

**Information on likely routes of exposure**

There are no data available on the mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards**

**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.

**Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 12: Ecological information**

**12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

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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
7803-55-6	ammonium trioxovanadate					
	Acute fish toxicity	LC50	3,17 mg/l	96 h	Gasterosteus aculeatus	Environmental Toxicology 20:18–22. (2005) EPA OPPTS 850.1075
	Acute algae toxicity	ErC50	2,907 mg/l	72 h	Desmodesmus subspicatus	Study report (1999) OECD Guideline 201
	Acute crustacea toxicity	EC50	1,52 mg/l	48 h	Daphnia magna	Study report (1978) 48h mortality test with daphnids
	Fish toxicity	NOEC	>= 0,48 mg/l	28 d	Jordanella floridae	Water Research 13:905-910. (1979) Different groups of fish were continuous
	Crustacea toxicity	NOEC	1,344 mg/l	23 d	Daphnia magna	Bulletin of Environmental Contamination other: 84/449/EEC: given by the Commissi
	Acute bacteria toxicity	EC50	> 100 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	Study report (2010) OECD Guideline 209
10099-74-8	lead dinitrate					
	Acute fish toxicity	LC50	1,17 mg/l	96 h	Oncorhynchus mykiss	Publication (1976) Acute bioassays
	Acute algae toxicity	ErC50	0,123 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2008) OECD Guideline 201
	Acute crustacea toxicity	EC50	0,59683 mg/l	48 h	Ceriodaphnia dubia	Study report (2007) other: USEP
	Fish toxicity	NOEC	0,087 mg/l	62 d	Oncorhynchus mykiss	Publication (2008) methods adapted from the standard guide
	Crustacea toxicity	NOEC	0,099 mg/l	7 d	Ceriodaphnia dubia	Publication (1995) chronic toxicity testing of lead to aqua
7782-49-2	selenium					
	Acute fish toxicity	LC50	2,06 mg/l	96 h	Pimephales promelas	Archives of Environmental Contamination EPA OPP 72-1

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	Acute algae toxicity	ErC50	45 mg/l	96 h	Dunaliella viridis	Environmental Toxicology and Chemistry 2	other: EPA 600/491002: Short-term method
	Acute crustacea toxicity	EC50 mg/l	0,55	48 h	Daphnia magna	Environmental Toxicology and Chemistry 1	other: EPA-660/3-75-009: Methods for Acu
	Fish toxicity	NOEC mg/l	0,33	60 d	Lepomis macrochirus	Aquatic Toxicology 27, 265-279 (1993)	Juvenile fish were exposed for 60 days t
	Algae toxicity	NOEC mg/l	1,03	10 d	Anabaena flos-aquae	Archives of Environmental Contamination	10-d experiment on the toxicity of selen
	Crustacea toxicity	NOEC	0,1 mg/l	24 d	Hyalella azteca	Publication (1993)	In this study 2-month-old Hyalella aztec

**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
7803-55-6	ammonium trioxovanadate	< 0,036	Lactuca sativa	Study report (2003)
10099-74-8	lead dinitrate	3250	Hyalella azteca	Hydrobiologia 259: 7
7782-49-2	selenium	< 0,61	Pimephales promelas	Arch. Environ. Conta

**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 REACH, annex XIII.

**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.

**Further information**

Do not allow to enter into surface water or drains.

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

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.

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

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<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Special Provisions:	223 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	1 - acids

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

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**SECTION 15: Regulatory information**

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**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; cadmium

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 19, Entry 23, Entry 27, Entry 28, Entry 30, Entry 63, Entry 65, Entry 72, Entry 75

Information according to Directive Not subject to 2012/18/EU (SEVESO III)

2012/18/EU (SEVESO III):

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

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

**Additional information**

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

**National regulatory information**
**SECTION 16: Other information**
**Abbreviations and acronyms**

Ox. Liq. 3: Oxidising liquids, hazard category 3  
 Ox. Sol. 1: Oxidising solids, hazard category 1  
 Ox. Sol. 2: Oxidising solids, hazard category 2  
 Met. Corr. 1: Corrosive to metals, hazard category 1  
 Flam. Sol. 2: Flammable solids, hazard category 2  
 Acute Tox. 2: Acute toxicity, hazard category 2  
 Acute Tox. 3: Acute toxicity, hazard category 3  
 Acute Tox. 4: Acute toxicity, hazard category 4  
 Skin Corr. 1A: Skin corrosion, sub-category 1A  
 Skin Corr. 1B: Skin corrosion, sub-category 1B  
 Skin Irrit. 2: Skin irritation, hazard category 2  
 Eye Dam. 1: Serious eye damage, hazard category 1  
 Eye Irrit. 2: Eye irritation, hazard category 2  
 Resp. Sens. 1: Respiratory sensitisation, hazard category 1  
 Skin Sens. 1: Skin sensitisation, hazard category 1  
 Muta. 2: Germ cell mutagenicity, hazard category 2  
 Carc. 1A: Carcinogenicity, hazard category 1A  
 Carc. 1B: Carcinogenicity, hazard category 1B  
 Carc. 2: Carcinogenicity, hazard category 2  
 Repr. 1A: Reproductive toxicity, hazard category 1A  
 Repr. 1B: Reproductive toxicity, hazard category 1B  
 Repr. 2: Reproductive toxicity, hazard category 2  
 STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3  
 STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1  
 STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2  
 Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1  
 Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1  
 Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2  
 Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3  
 Aquatic Chronic 4: Hazardous to the aquatic environment, long-term hazard category: Chronic 4

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**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Carc. 1A; H350	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

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

H228	Flammable solid.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
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.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H360F	May damage fertility.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
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 processing,

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the information on this safety data sheet is not necessarily valid for the new made-up material.  
The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.  
The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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