



according to UK REACH Regulation

# Multielement-Standard 7 Elemente je 100 mg/l in Salpetersäure 0,5 mol/l mit 1% Flusssäure

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

#### 1.1. Product identifier

Multielement-Standard 7 Elemente je 100 mg/l in Salpetersäure 0,5 mol/l mit 1% Flusssäure

UFI: 1G82-S36E-W00G-PVVM

## 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** For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

<u>number:</u> 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 Acute Tox. 3; H311 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

# 2.2. Label elements

## **GB CLP Regulation**

# Hazard components for labelling

nitric acid Hydrofluoric acid

Signal word: Danger



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### Pictograms:





#### **Hazard statements**

H290 May be corrosive to metals. H302+H332 Harmful if swallowed or if inhaled.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

### **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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 of certain mixtures

EUH071 Corrosive to the respiratory tract.

### 2.3. Other hazards

No data available

# **SECTION 3: Composition/information on ingredients**

### 3.2. Mixtures

# **Chemical characterization**

Mixtures in aqueous solution

# **Hazardous components**

CAS No	Chemical name	Chemical name				
	EC No	Index No	REACH No			
	Classification (GB CLP Regulation	)				
7697-37-2	nitric acid	nitric acid				
	231-714-2	007-030-00-3	01-2119487297-23			
	Ox. Liq. 3, Met. Corr. 1, Acute Tox	r. 1, Acute Tox. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071				
7664-39-3	Hydrofluoric acid %					
	231-634-8	009-003-00-1	01-2119458860-33			
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Skin Corr. 1A; H310 H330 H300 H314					

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

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

CAS No	EC No	Chemical name					
	Specific Conc. I	Limits, M-factors and ATE					
7697-37-2	231-714-2	nitric acid	1 - < 5 %				
		on: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 Skin Corr. 1B; H314: >= 5 - < 20					
7664-39-3	231-634-8	Hydrofluoric acid %	1 - < 5 %				
	inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); inhalation:  LC50 = 1610 ppm (gases); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg Skin Corr. 1A; H314:  >= 7 - 100 Skin Corr. 1B; H314: >= 1 - < 7 Eye Irrit. 2; H319: >= 0,1 - < 1						





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#### **Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

### **SECTION 4: First aid measures**

### 4.1. Description of first aid measures

#### **General information**

First aider: Pay attention to self-protection!

Do not breathe vapour/aerosol.

#### 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

Causes burns.

Irritant

Cough

Dyspnoea

Vomiting

Methaemoglobinaemia

Risk of serious damage to eyes.

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

It is recommended to consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid

## **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)

Hydrogen fluoride

## 5.3. Advice for firefighters

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





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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

#### General advice

Do not breathe vapour/aerosol. Corrosive to metals. / Glass

### 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).

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

Collect in closed and suitable containers for disposal.

## 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.



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## 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. / Glass

Unsuitable container/equipment material: Metal / Glass

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

#### Hints on joint storage

national regulations

## Further information on storage conditions

Keep container tightly closed.

### 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/m³	fibres/ml	Category	Origin
7664-39-3	Hydrogen fluoride (as F)	1.8	1.5		TWA (8 h)	WEL
		3	2.5		STEL (15 min)	WEL
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL

## 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**

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

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11 mm Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L



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

#### 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

#### 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:

Colour:

Colour:

Odour:

Dike: Nitric acid

No data available

Melting point/freezing point:

No data available
Boiling point or initial boiling point and

No data available

boiling range:

Flammability:

Lower explosion limits:

Upper 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:

<1</p>

Viscosity / kinematic:

Water solubility:

No data available completely miscible

Solubility in other solvents

No data available

Dissolution rate: No data available Partition coefficient n-octanol/water: No data available No data available Dispersion stability: Vapour pressure: No data available Vapour pressure: No data available Density: 1,0206 g/cm3 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



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Explosive properties

No data available

Sustaining combustion: No data available

Self-ignition temperature

Solid: No data available
Gas: No data available

Oxidizing properties
Oxidising agent

Other safety characteristics

Evaporation rate:

Solvent separation test:

No data available

Solvent content:

Solid content:

Sublimation point:

Softening point:

No data available

No data available:

Viscosity / dynamic:

Flow time:

No data available

No data available

Further Information
Corrosive to metals.

# **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

Corrosive to metals. / Glass

Oxidising agent

# 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.

Amines, Ammonia, Alcohols, Alkali metals, Hydrogen peroxide

Copper, Combustible solids, Solvent, Alkaline earth metal, mercury (Hg).

## 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Cellulose

Metal

Glass

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 GB CLP Regulation



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#### Toxicocinetics, metabolism and distribution

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

#### **Acute toxicity**

Toxic in contact with skin.

Harmful if swallowed.

Harmful if inhaled.

### **ATEmix calculated**

ATE (oral) 500,0 mg/kg; ATE (dermal) 500,0 mg/kg; ATE (inhalation vapour) 30,96 mg/l; ATE (inhalation dust/mist) 5,000 mg/l

CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
7697-37-2	nitric acid						
	inhalation vapour	ATE 2,6	5 mg/l				
7664-39-3	Hydrofluoric acid %						
	oral	ATE	5 mg/kg				
	dermal	ATE	5 mg/kg				
	inhalation vapour	ATE	0,5 mg/l				
	inhalation dust/mist	ATE	0,05 mg/l				
	inhalation (1 h) gas	LC50 ppm	1610	Rat			

### Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Following ingestion Gastric perforation

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Irritating to respiratory system.

Pulmonary oedema

see also Section 4

## Sensitising effects

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

## Carcinogenic/mutagenic/toxic effects for reproduction

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

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

# **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 preparation/mixture itself.

### Specific effects in experiment on an animal

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

#### 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



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### **Endocrine disrupting properties**

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

#### 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

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

CAS No	Chemical name							
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method	
7697-37-2	nitric acid	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		juvenile Topeka shiner and with juvenile Fathead m	Study report (2009)	Growth tests estimated the test chemical	
	Algae toxicity	NOEC mg/l	> 419		several benthic diatoms; see results	Marine Biology 43:307-315 (1977)	Ten cultures of benthic diatoms were iso	
	Acute bacteria toxicity	(EC50 mg/l)	> 1000	3 h	Activated sludge	Study report (2008)	OECD Guideline 209	

## 12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

# 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.

# **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.



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### 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.

# **SECTION 14: Transport information**

### Land transport (ADR/RID)

14.1. UN number or ID number: UN 2922

14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (nitric acid, Hydrofluoric acid)

14.3. Transport hazard class(es): 14.4. Packing group: Ш Hazard label: 8+6.1 Classification code: CT1 Special Provisions: 274 Limited quantity: 1 I Excepted quantity: F2 Transport category: 2 Hazard No: 86 Tunnel restriction code: Ε

#### Inland waterways transport (ADN)

14.1. UN number or ID number: UN 2922

14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (nitric acid, Hydrofluoric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Classification code:CT1Special Provisions:274 802Limited quantity:1 LExcepted quantity:E2

#### Marine transport (IMDG)

14.1. UN number or ID number: UN 2922

**14.2. UN proper shipping name:** CORROSIVE LIQUID, TOXIC, N.O.S. (nitric acid, Hydrofluoric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Special Provisions:274Limited quantity:1 LExcepted quantity:E2EmS:F-A. S-B

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

14.1. UN number or ID number: UN 2922

14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (nitric acid, Hydrofluoric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Special Provisions:A3 A4 A803Limited quantity Passenger:0.5 LPassenger LQ:Y840Excepted quantity:E2

IATA-packing instructions - Passenger:851IATA-max. quantity - Passenger:1 LIATA-packing instructions - Cargo:855IATA-max. quantity - Cargo:30 L



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### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### **SECTION 15: Regulatory information**

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

### **EU** regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

#### **National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile

work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

#### **SECTION 16: Other information**

### Abbreviations and acronyms

Ox. Liq: Oxidising liquids
Met. Corr: Corrosive to metals
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Eye Dam: Eye damage

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure			
Met. Corr. 1; H290	On basis of test data			
Acute Tox. 3; H311	Calculation method			
Acute Tox. 4; H302	Calculation method			
Acute Tox. 4; H332	Calculation method			
Skin Corr. 1B; H314	Calculation method			
Eye Dam. 1; H318	Calculation method			

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

H272 May intensify fire; oxidiser. H290 May be corrosive to metals.

H300 Fatal if swallowed. H302 Harmful if swallowed.

H302+H332 Harmful if swallowed or if inhaled.

H310 Fatal in contact with skin.
H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330 Fatal if inhaled. H331 Toxic if inhaled. H332 Harmful if inhaled.

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, 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





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product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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