

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 14 Elemente je 100 mg/l in Salpetersäure 5 % und Flusssäure 1 %

Revision date: 16.05.2022 Product code: 31997 Page 1 of 12

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

1.1. Product identifier

Multielement-Standardlösung 14 Elemente je 100 mg/l in Salpetersäure 5 % und Flusssäure 1 %

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: Fa. Bernd Kraft GmbH Street: Stempelstraße 6 Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

e-mail: info@berndkraft.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

e-mail: produktsicherheit@berndkraft.de

Internet: www.berndkraft.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

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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

Regulation (EC) No 1272/2008

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. Immediately call a POISON CENTER/doctor.

Special labelling of certain mixtures

EUH071 Corrosive to the respiratory tract.

2.3. Other hazards

P310

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name				
	EC No Index No REACH No		REACH No		
	Classification (Regulation (EC) No	1272/2008)			
7697-37-2	nitric acid				
	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				
7664-39-3	Hydrofluoric acid %				
	231-634-8	009-003-00-1	01-2119458860-33		
	Acute Tox. 1, Acute Tox. 2, Acute T	ox. 2, Skin Corr. 1A; H310 H330 H3	00 H314		

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



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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. L	imits, M-factors and ATE	
7697-37-2	231-714-2	nitric acid	5 - < 10 %
		2,65 mg/kg (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 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		

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!

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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



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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.

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

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

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



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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.

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 Glass

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

Further information on storage conditions

Keep container tightly closed.

Store in a place accessible by authorized persons only.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7664-39-3	Hydrogen fluoride (as F)	1.8	1.5		TWA (8 h)	
		3	2.5	ĺ	STEL (15 min)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	

Biological limit values

CAS No	Substance Parameter		Value	Test material	Sampling time
7664-39-3	Hydrogen fluoride	Fluoride	3 mg/L	Urine	End of shift

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



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Eye/face protection

goggles

Wear eye/face protection.

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 supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

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).

Skin protection

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

Wash hands before breaks and after work.

Respiratory protection

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

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: clear

Odour: like: Nitric acid

Changes in the physical state

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Sublimation point:

Softening point:

No data available

No data available

Pour point:

No data available

No data available:



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Flash point: No data available

Flammability

Solid/liquid: No data available
Gas: No data available

Explosive properties

No data available

Lower explosion limits:

Upper explosion limits:

No data available

No data available

Auto-ignition temperature:

No data available

Self-ignition temperature

Solid: No data available Gas: No data available No data available Decomposition temperature: pH-Value: acidic No data available Viscosity / dynamic: Viscosity / kinematic: No data available Flow time: No data available Water solubility: completely miscible

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:

Vapour pressure:

No data available

Vapour pressure:

No data available

No data available

Density:

1,034 g/cm³

Bulk density:

No data available

Relative vapour density:

No data available

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion: No data available

Oxidizing properties

Oxidizing

Other safety characteristics

Solvent separation test:

Solvent content:

Solid content:

Evaporation rate:

No data available

No data available

Further Information
Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals. Oxidising agent

10.2. Chemical stability



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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

Glass

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

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 dust/mist) 3,200 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
7697-37-2	-37-2 nitric acid					
	inhalation vapour	ATE 2,6	5 mg/kg			
7664-39-3	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

Irritating to respiratory system.

Pulmonary oedema

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction



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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.

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

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

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		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 REACH, annex XIII.

There are no data available on the mixture itself.

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.



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Further information

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided.

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.

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)

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: F

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)



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14.1. UN number or ID number: UN 2922

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

14.3. Transport hazard class(es): 14.4. Packing group: Ш Hazard label: 8+6.1 **Special Provisions:** A3 A803 Limited quantity Passenger: 0.5 L Passenger LQ: Y840 Excepted quantity: F2

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

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

Changes

This data sheet contains changes from the previous version in section(s): 1.

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
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. Harmful if swallowed. H302

Harmful if swallowed or if inhaled. H302+H332

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.



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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 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.)