

Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter								
Revision date: 30.09.2024	contains: 1 Product code: 02	513	Page 1 of 12					
SECTION 1: Identification of the substance/mixture and of the company/undertaking								
1.1. Product identifier								
Multielement standard solution	n 7 elements 1000 mg/l each in nitric a	acid 2 mol/l 1 Liter contains: 1						
UFI:	YSX6-309N-100P-50WA							
1.2. Relevant identified uses of the	substance or mixture and uses advi	sed against						
	ances as such or in preparations at in nain (administration, education, enterta							
Uses advised against								
Do not use for private purpose	es (household).							
1.3. Details of the supplier of the sa	ifety data sheet							
Company name:	AnalytiChem GmbH							
Street: Place:	ACD Stempelstraße 6 D-47167 Duisburg							
Telephone:	0203/5194-0	Telefax: 0203/5194-290						
E-mail:	info@analytichem.de	T						
Contact person: E-mail:	Abteilung Produktsicherheit produktsicherheit@analytichem.d	Telephone: 0203/5194-107/117						
L-mail.	www.analytichem.de	5						
Responsible Department:	Abteilung Produktsicherheit							
1.4. Emergency telephone For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, number: 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. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Pictograms:

Regulation (EC) No 1272/2008

Hazard components for labelling nitric acid Signal word: Danger

Danger





Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

	contains: 1	
Revision date: 30.09.2024	Product code: 02513	Page 2 of 12
Hazard statements		
H290	May be corrosive to metals.	
H314	Causes severe skin burns and eye damage.	
H332	Harmful if inhaled.	
Precautionary statemen	its	
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

Corrosive to the respiratory tract. EUH071

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name	Chemical name			
	EC No Index No REACH No				
	Classification (Regulation (EC) No 1272/2008)				
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. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071				

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. L	imits, M-factors and ATE	
7697-37-2	231-714-2	nitric acid	10 - < 15 %
		. 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 rr. 1B; H314: >= 5 - < 20	

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.

If breathing is irregular or stopped, administer artificial respiration.



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 3 of 12

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.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

Irritant — skin irritation and eye damage Causes burns. Cough Dyspnoea Risk of serious damage to eyes. Vomiting Methaemoglobinaemia

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

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. Do not inhale explosion and combustion gases. 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.



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 4 of 12

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Read label before use. Handle and open container with care. When using do not eat, drink, smoke, sniff. Keep container tightly closed. Use personal protection equipment. Use extractor hood (laboratory). Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Material, oxygen-rich, Oxidising

Advice on general occupational hygiene

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. 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.

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



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 5 of 12

Requirements for storage rooms and vessels

Keep container tightly closed.

Provide adequate ventilation as well as local exhaustion at critical locations.

Further information on storage conditions

Unsuitable container/equipment material: Metal, Light metal

7.3. Specific end use(s)

Laboratory chemicals

Keep in a cool place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	

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. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Face protection shield goggles.

Hand protection

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 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 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.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 6 of 12

carried out according to the instructions of the producer. These measures have to be properly documented.

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

Dhysical state:		
Physical state: Colour:	Liquid colourless	
Odour:		
Odour threshold:	stinging No data available	
Melting point/freezing point:	NO Udla avaliable	No data available
Boiling point or initial boiling point and		No data available
boiling range:		NO Gala available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		acidic
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		
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 haz	zard classes	
Explosive properties		
No data available		
Sustaining combustion:		No data available
Self-ignition temperature		
Solid:		No data available
Gas:		No data available
Oxidizing properties		
Oxidising.		
Other safety characteristics		
Evaporation rate:		No data available
Solvent separation test:		No data available
Solvent content:		No data available
Solid content:		No data available
Sublimation point:		No data available
Softening point:		No data available



Multielement standard s	solution 7 elements 1000 mg/l each in nitric ac	id 2 mol/l 1 Liter			
contains: 1					
Revision date: 30.09.2024	Product code: 02513	Page 7 of 12			
Pour point:	No data available				

No data available

No data available

No data available: Viscosity / dynamic: Flow time:

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

F

Corrosive to metals. Oxidising agent, strong

2 Chomical stability

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Danger of explosion:

Acetone, Alcohol, Aniline, Substance, organic, Benzene, Aniline, Amines, Hydrocarbons, halogenated, Diethyl ether, Hydrazine, Dioxane, Acetic acid, Acetic anhydride, Ethanol, Fluorine, Formaldehyde, Rubber articles, Hydrocarbons, Copper, Powdered metals, Methanol, Phosphorus trichloride, Hydrogen phosphides, Gasoline, Reducing agent, titanium, Toluene, Hydrogen peroxide, tin, Xylene, Dichloromethane, carbon black, Potassium chlorate, permanganates, e.g. potassium permanganate

Ignition hazard:

Amines, Ammonia (NH3), Combustible substance, aldehydes, Hydrogen iodide (HI), White/yellow phosphor, Hydrogen sulphide (H2S), Alkali metals, Alkaline earth metal Violent reaction with:

Nitriles, antimony, arsenic, boron, Alkali (lye), , Formic acid, sulphuric acid, sulphuric acid, sulphuric acid, selenium

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Cellulose, Metal Keep away from: Metal. Keep away from combustible material. The product develops hydrogen in an aqueous solution in contact with metals. / Nitrogen oxides (NOx)

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

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Harmful if inhaled. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Pulmonary oedema



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 8 of 12

CA	AS No	Chemical name							
		Exposure route Dose Species Source Method							
76	97-37-2	nitric acid							
		inhalation vapour	ATE 2,65 mg/l						

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.

Risk of serious damage to eyes.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

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 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

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

Irritant — skin irritation and eye damage Causes burns. Cough Dyspnoea Risk of serious damage to eyes. Vomiting Methaemoglobinaemia

SECTION 12: Ecological information

12.1. Toxicity

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



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter

contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 9 of 12

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.

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 empty into 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. Do not mix with other wastes.

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 2031
14.2. UN proper shipping name:	NITRIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter contains: 1					
Revision date: 30.09.2024	Product co	ode: 02513	Page 10 of 12		
Hazard label: Classification code: Limited quantity: Excepted quantity: Transport category: Hazard No: Tunnel restriction code:	8 C1 1 L E2 2 80 E				
Inland waterways transport (ADN)	E				
14.1. UN number or ID number: 14.2. UN proper shipping name: 14.3. Transport hazard class(es): 14.4. Packing group: Hazard label: Classification code: Limited quantity: Excepted quantity:	UN 2031 NITRIC ACID 8 II 8 C1 1 L E2				
Marine transport (IMDG)	LZ				
14.1. UN number or ID number: 14.2. UN proper shipping name: 14.3. Transport hazard class(es): 14.4. Packing group: Hazard label: Special Provisions: Limited quantity: Excepted quantity: EmS: Air transport (ICAO-TI/IATA-DGR) 14.1. UN number or ID number: 14.2. UN proper shipping name: 14.3. Transport hazard class(es): 14.4. Packing group: Hazard label: Special Provisions: Limited quantity Passenger: Passenger LQ: Excepted quantity: IATA-packing instructions - Passenger: IATA-max. quantity - Passenger:	UN 2031 NITRIC ACID 8 II 8 - 1 L E2 F-A, S-B UN 2031 NITRIC ACID 8 II 8 A212 Forbidden Forbidden E0	Forbidden Forbidden			
IATA-packing instructions - Cargo: IATA-max. quantity - Cargo: IATA-max. quantity - Cargo:		855 30 L			
ENVIRONMENTALLY HAZARDOUS:	No				
14.6. Special precautions for user Warning: Oxidising substances. strong 14.7. Maritime transport in bulk according to not applicable	ly corrosive.				
SECTION 15: Regulatory information					

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

EU regulatory information



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter contains: 1								
Revision date: 30.09.2024	Product code: 02513	Page 11 of 12						
Restrictions on use (REACH, annex Entry 3	XVII):							
Acquisition, introduction, posses	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							
National regulatory information								
Employment restrictions:	Observe restrictions to employment for juveniles according to the work protection guideline' (94/33/EC). Observe employment rest under the Maternity Protection Directive (92/85/EEC) for expect nursing mothers.	strictions						
Water hazard class (D):	1 - slightly hazardous to water							
SECTION 16: Other information								
Changes This data sheet contains change	s from the previous version in section(s): 1,9,11,12.							
Abbreviations and acronyms Ox. Liq: Oxidising liquid Met. Corr: Substance or mixture Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage	corrosive to metals							

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%

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. 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.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
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



Multielement standard solution 7 elements 1000 mg/l each in nitric acid 2 mol/l 1 Liter contains: 1

Revision date: 30.09.2024

Product code: 02513

Page 12 of 12

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. Provide appropriate information, instructions and training to users

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