

Beryllium Standard 1.000g Be/L Be4O(C2H3O2)6 in nitric acid 0.5 mol/l for ICP - traceable to NIST									
Revision date: 07.03.2025	Product code: 03	924	Page 1 of 12						
SECTION 1: Identification of the	SECTION 1: Identification of the substance/mixture and of the company/undertaking								
<u>1.1. Product identifier</u> Beryllium Standard 1.000g Be/	L Be4O(C2H3O2)6 in nitric acid 0.5 n	nol/l for ICP - traceable to NIST							
UFI:	AWUA-806S-600X-HQ4C								
1.2. Relevant identified uses of the s	substance or mixture and uses advis	sed against							
	nces as such or in preparations at inc ain (administration, education, enterta								
Do not use for private purpose	s (household).								
1.3. Details of the supplier of the saf	,								
Company name:	AnalytiChem GmbH ACD								
Street: Place:	Stempelstraße 6 D-47167 Duisburg								
Telephone: E-mail: Contact person:	0203/5194-0 info@analytichem.de Abteilung Produktsicherheit	Telefax: 0203/5194-290 Telephone: 0203/5194-107/117							
E-mail: Internet: Responsible Department:	produktsicherheit@analytichem.de www.analytichem.de Abteilung Produktsicherheit	•							
<u>1.4. Emergency telephone</u> number:	Exposure, or Accident Call CHEM	erous Goods] Incidents Spill, Leak, Fire, IREC Day or Night Within USA and Canada Canada: +1 703-741-5970 (collect calls	1:						
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 Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Carc. 1B; H350i STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling nitric acid beryllium nitrate Signal word: Danger

Revision No: 1,05 - Replaces version: 1,04



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Hazard statements

H290	May be corrosive to metals.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H350i	May cause cancer by inhalation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Obtain special instructions before use.
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER/doctor.

Special labelling of certain mixtures

Restricted to professional users.

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		Quantity			
	EC No	Index No	REACH No			
	Classification (Regulation	(EC) No 1272/2008)	· · · ·			
7697-37-2	nitric acid			1 - < 5 %		
	231-714-2	31-714-2 007-030-00-3 01-2119487297-23				
	Ox. Liq. 3, Met. Corr. 1, A EUH071	cute Tox. 3, Skin Corr. 1A, Eye Da	n. 1; H272 H290 H331 H314 H318			
13597-99-4	beryllium nitrate			1 - < 5 %		
	237-062-5	237-062-5 004-002-00-2				
	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					

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. Limits, M-factors and ATE			
7697-37-2	231-714-2	31-714-2 nitric acid		
	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			
13597-99-4	237-062-5	beryllium nitrate	1 - < 5 %	
	inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); oral: ATE = 100 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

No data available

After inhalation

Provide fresh air.

Call a physician immediately.

After contact with skin

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse. Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

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 (NOx) Metal oxide smoke, toxic



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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. 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.



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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. Unsuitable container/equipment material: Metal 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.

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
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.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles Wear eye/face protection.

wear eyenace protectio

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



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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.

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 entrepeneur 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.

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		No data available
boiling range:		
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:		<1
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
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:		~1,02 g/cm ³
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



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Information with regard to physical hazard o	classes	
Explosive properties No data available		
	No data available	
Sustaining combustion:		
Self-ignition temperature 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:	No data available	
Solid content:	No data available	
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		

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

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Cellulose
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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

Toxicocinetics, metabolism and distribution

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



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Acute toxicity

Harmful if inhaled.

ATEmix calculated

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ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) 19,60 mg/l; ATE (inhalation dust/mist) 2,129 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
13597-99-4	beryllium nitrate	_			
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (beryllium nitrate)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer by inhalation. (beryllium nitrate) 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 nitrate)

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

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



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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						
	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

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

<u>12.4. Mobility in soil</u>

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. 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.

Contaminated packaging

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

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

SECTION 14: Transport information

Land transport (ADR/RID) <u>14.1. UN number or ID number:</u>

UN 3264



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14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)				
14.3. Transport hazard class(es):	8				
14.4. Packing group:	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)					
14.1. UN number or ID number:	UN 3264				
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)				
14.3. Transport hazard class(es):	8				
14.4. Packing group:	III				
Hazard label:	8				
Classification code:	C1				
Special Provisions:	274				
Limited quantity:	5 L				
Excepted quantity:	E1				
· · · ·					
Marine transport (IMDG)	UN 3264				
14.1. UN number or ID number:					
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid)				
14.3. Transport hazard class(es):	8				
14.4. Packing group:					
Hazard label:	8				
Special Provisions:	223, 274				
Limited quantity:	5 L				
Excepted quantity:	E1				
EmS:	F-A, S-B				
Air transport (ICAO-TI/IATA-DGR)					
14.1. UN number or ID number:	UN 3264				
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid)				
<u>14.3. Transport hazard class(es):</u>	8				
14.4. Packing group:	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					

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



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Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

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:

Water hazard class (D):

under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. 1 - slightly hazardous to water

Observe restrictions to employment for juveniles according to the 'juvenile

work protection guideline' (94/33/EC). Observe employment restrictions

SECTION 16: Other information

Abbreviations and acronyms

Ox. Liq: Oxidising liquid Met. Corr: Substance or mixture corrosive to metals Acute Tox: Acute toxicity Skin Corr: Skin corrosion Skin Irrit: Skin irritation Eye Dam: Eye damage Eye Irrit: Eye irritation Skin Sens: Skin sensitisation Carc: Carcinogenicity STOT SE: Specific target organ toxicity - single exposure STOT RE: Specific target organ toxicity - repeated exposure Aquatic Chronic: Chronic aquatic hazard

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 Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Carc. 1B; H350i	Calculation method
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H301	Toxic 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.
H335	May cause respiratory irritation.



Rev

according to Regulation (EC) No 1907/2006

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H350i	May cause cancer by inhalation.	
H372	Causes damage to organs through prolonged or repeated exposure.	
H373	May cause damage to organs through prolonged or repeated exposure.	
H411	Toxic to aquatic life with long lasting effects.	
EUH071	Corrosive to the respiratory tract.	
Further Information		
	on describes exclusively the safety requirements of the product and is based on our ge. The information is intended to give you advice about the safe handling of the product	

present-day knowledge. The information is intended to give you advice about the safe handling of the produnamed 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. 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.)