Safety Data Sheet

according to UK REACH Regulation

Alcoholic nitric acid, 5% Nital

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

1.1. Product identifier

Alcoholic nitric acid, 5% Nital

Further trade names

Alkoholische Salpetersäure 5% Nital / Alcoholic nitric acid, 5% Nital
order number 92006878 - 1 L

UFI: 3NJA-N7VS-F999-4VH3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Reagents and laboratory chemicals (Etching agent)
Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Company name:	ATM Qness GmbH
Street:	Emil-Reinert-Straße 2
Place:	D-57636 Mammelzen
Telephone:	+49 (0) 2681 95390
E-mail:	info@qatm.com
Contact person:	info@qatm.com

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
Met. Corr. 1; H290
Skin Corr. 1; 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

Signal word: Danger

Pictograms:

Hazard statements

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing and eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

	or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
64-17-5	ethanol; ethyl alcohol			65 - < 70 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
7697-37-2	nitric acid			5 %
	231-714-2	007-030-00-3		
	Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A, Eye Dam. 1; H272 H290 H331 H314 H318 EUH071			
78-93-3	butanone; ethyl methyl ketone			< 1 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
64-17-5	200-578-6	ethanol; ethyl alcohol	65 - < 70 %
	inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = 10470 mg/kg Eye Irrit. 2; H319: >= 50 - 100		
7697-37-2	231-714-2	nitric acid	5 %
	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		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice.

After inhalation

Remove casualty to fresh air and keep warm and at rest. If experiencing respiratory symptoms: Call a doctor.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician.

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. Observe risk of aspiration if vomiting occurs. Never give anything by mouth to an unconscious person or a person with cramps. Call a doctor if you feel unwell. Rinse mouth.

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

Dizziness, Inebriation, Narcotic effects
Vomiting

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO2), Water spray jet
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air.
In case of fire may be liberated: Carbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Pyrolysis products, toxic

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Evacuate area.

For non-emergency personnel

Remove all sources of ignition. Provide adequate ventilation. Use personal protection equipment.

For emergency responders

Wear personal protection equipment (refer to 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

Stop leak if safe to do so. Cover drains.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.
Ventilate affected area.

Other information

Use non-sparking tools.
Clean contaminated articles and floor according to the environmental legislation.

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

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.
Avoid: aerosol or mist formation
Use personal protection equipment.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Vapours can form explosive mixtures with air. Use non-sparking tools.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep/Store only in original container.

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. metals.

Further information on storage conditions

Protect against: Heat

7.3. Specific end use(s)

Reagents and laboratory chemicals (Etching agent)
Restricted to professional users.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	butan-2-one	70 µmol/L	urine	Post shift

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
64-17-5	ethanol; ethyl alcohol			
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	950 mg/m³
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m³
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
78-93-3	butanone; ethyl methyl ketone			
Worker DNEL, long-term		inhalation	systemic	600 mg/m³
Worker DNEL, long-term		dermal	systemic	1161 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	106 mg/m³
Consumer DNEL, long-term		dermal	systemic	412 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	31 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol; ethyl alcohol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,38 mg/kg
Microorganisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg
78-93-3	butanone; ethyl methyl ketone	
Freshwater		55,8
Freshwater (intermittent releases)		55,8
Marine water		55,8
Freshwater sediment		284,74
Marine sediment		284,7
Secondary poisoning		1000
Microorganisms in sewage treatment plants (STP)		709
Soil		22,5

8.2. Exposure controls



Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses. EN ISO 16321 (EN 166).

Hand protection

Wear suitable gloves. (EN ISO 374)
Suitable material: FKM (fluoro rubber)
Breakthrough time: >= 480 min
Thickness of the glove material: 0,4 mm

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.

Skin protection

Wear suitable protective clothing.

Respiratory protection

Respiratory protection necessary at: insufficient ventilation, exceeding exposure limit values, aerosol or mist formation

Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	characteristic
Odour threshold:	not determined
Melting point/freezing point:	-114,5 °C
Boiling point or initial boiling point and boiling range:	78 °C
Flammability:	Highly flammable
Lower explosion limits:	3,5 vol. %
Upper explosion limits:	15 vol. %
Flash point:	13 °C
Auto-ignition temperature:	425 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	< 1
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	1000 g/l

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined

Vapour pressure: (at 20 °C)	59 hPa
Density (at 20 °C):	0,8 g/cm³
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours can form explosive mixtures with air.

Sustained combustibility: Sustained combustibility

Other safety characteristics

Solvent content: 97 %

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable. Corrosive to metals

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Vapours can form explosive mixtures with air.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials

Oxidizing agent. Pyrophoric or self-heating substances. metals.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Pyrolysis products, toxic

SECTION 11: Toxicological information

11.1. Information on hazard classes

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 50 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol; ethyl alcohol				
	oral	LD50 10470 mg/kg	Rat	Pre-supplier/manufacturer	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	Pre-supplier/manufacturer	
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage. (On basis of test data)
Serious eye damage/eye irritation: Causes serious eye damage. (On basis of test data)

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

oral, Skin contact, Eye contact, Inhalation.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.
Damaging effect on aquatic ecosystems possible due to change in the pH value.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
64-17-5	ethanol; ethyl alcohol					
	Acute crustacea toxicity	EC50 9268 - 14221 mg/l	48 h	Daphnia magna	IUCLID	
78-93-3	butanone; ethyl methyl ketone					
	Acute fish toxicity	LC50 2993 mg/l	96 h	Pimephales promelas (fathead minnow)	Pre-supplier/manufacturer	
	Acute algae toxicity	ErC50 2029 mg/l	96 h	Pseudokirchneriella subcapitata	Pre-supplier/manufacturer	
	Acute crustacea toxicity	EC50 308 mg/l	48 h	Daphnia magna (Big water flea)	Pre-supplier/manufacturer	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	ethanol; ethyl alcohol			
	Biodegradation	84 %	20	Manufacturer
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	ethanol; ethyl alcohol	-0,35
7697-37-2	nitric acid	-0,21
78-93-3	butanone; ethyl methyl ketone	0,3

12.4. Mobility in soil

The product has not been tested.

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

Damaging effect on aquatic ecosystems possible due to change in the pH value.

Further information

Before discharge into sewage plants the product normally needs to be neutralised.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Collect the waste separately. Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 2924

14.2. UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol; ethyl alcohol, nitric acid [C<= 70 %])

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3+8

Classification code: FC

Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	338
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol; ethyl alcohol, nitric acid [C<= 70 %])
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8

Classification code:	FC
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol; ethyl alcohol, nitric acid [C<= 70 %])
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8

Marine pollutant:	-
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol; ethyl alcohol, nitric acid [C<= 70 %])
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8

Special Provisions:	A3
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y340
Excepted quantity:	E2
IATA-packing instructions - Passenger:	352

IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	363
IATA-max. quantity - Cargo:	5 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Flammable liquids! Vapours can form explosive mixtures with air. Corrosive to metals.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

Hazchem code: •3WE

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 40, Entry 75

Directive 2010/75/EU on industrial emissions:	< 80 %
Information according to Directive 2012/18/EU (SEVESO III):	P5c FLAMMABLE LIQUIDS

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 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Ox. Liq. 3: Oxidising liquids, hazard category 3
Met. Corr. 1: Corrosive to metals, hazard category 1
Flam. Liq. 2: Flammable liquids, hazard category 2
Acute Tox. 3: Acute toxicity, hazard category 3
Skin Corr. 1A: Skin corrosion, sub-category 1A
Skin Corr. 1: Skin corrosion, hazard category 1
Eye Dam. 1: Serious eye damage, hazard category 1
Eye Irrit. 2: Eye irritation, hazard category 2
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging
EU: European Union
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
REACh: Registration, Evaluation and Authorization of Chemicals
UN: United Nations
PBT: Persistent, Bioaccumulative, Toxic
SVHC: Substance of Very High Concern
vPvB: very Persistent, very Bioaccumulative
ATE: Acute Toxicity Estimates
BCF: Bio-Concentration Factor
DMEL: Derived Minimal Effect Level
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
VOC: Volatile Organic Compounds
DIN: Deutsches Institut für Normung e.V. (German Institute for Standardization)
EN: European Standard
ISO: International Organization for Standardization
IUCLID: International Uniform ChemicaL Information Database
LC50: Lethal Concentration, 50 %
LD50: Lethal Dose, 50 %
LL50: Lethal Loading, 50 %
OECD: Organisation for Economic Co-operation and Development
EC50: Effective Concentration 50 %
M-Faktor: Multiplication Factor
EL50: Effect Loading, 50 %
ErC50: Effective Concentration 50 %, growth rate
M-Faktor: Multiplication Factor
NOEC: No Observed Effect Concentration
ADN: Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road
DGR: Dangerous Goods Regulations
EmS: Emergency Schedules
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organization
IE: Industrial Emissions
IMDG: International Maritime Code for Dangerous Goods
LQ: Limited Quantity
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
MFAG: Medical First Aid Guide

RID: Regulations concerning the International carriage of Dangerous goods by rail
TI: Technical Instructions

Key literature references and sources for data

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations). (v.1.2, 2013)

Classification for mixtures and used evaluation method

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.

Further Information

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.
Observe in addition any national regulations!

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