



## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 07.03.2019

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name/designation	Nitric acid 2 mol/l (2 N) aqueous solution volumetric solution
Product No.	5570
Substance name	Nitric acid 2 mol/l (2 N) aqueous solution
CAS No.	7697-37-2
INDEX no.	007-004-00-1
REACH registration No.	A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

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

Relevant identified uses	For laboratory use and chemical production.
Uses advised against	Not for sale to the general public

#### 1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

: Better Equipped,  
Wrenbury Business Park,  
Wrenbury Road,  
Wrenbury,  
Nantwich, Cheshire,  
CW5 8EB, UK

Telephone +44 (0) 800 9707142  
Fax +44 (0) 800 066 4443  
E-mail address [sales@betterequipped.co.uk](mailto:sales@betterequipped.co.uk)

#### 1.4 Emergency telephone

Telephone +44 (0)1270 781238

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No. 1272/2008 [CLP]

hazard classes and hazard categories	Hazard Statements	classification procedure	remark
Skin corrosion, category 1B	H314		

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols:	R-phrases
C	R34

**2.2 Label elements**

2.2.1 Labelling according to Regulation (EC) No. 1272/2008 [CLP]



Signal word    Danger

Hazard Statements

H314	Causes severe skin burns and eye damage.
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Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309+P310	IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

**2.2.2 Labelling (67/548/EEC or 1999/45/EC)**

Hazard symbols:

C

R-phrases

R34	Causes burns.
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S-phrases

S23	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**2.3 Other hazards**

none

### 3. Composition/ Information on ingredients

Hazardous ingredients:

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Substance name	CAS No.	EC No	concentration	hazard classes and hazard categories
Nitric acid fuming 100% (SVHC = No)	7697-37-2	231-714-2	5,00 - 20,00%	H272 - Oxidising liquid, category 3, H314 - Skin corrosion,

Hazardous ingredients:

Classification according to 67/548/EEC

Substance name	CAS No.	EC No	concentration	Hazard symbols:	R-phrases
Nitric acid fuming 100%	7697-37-2	231-714-2	5,00 - 20,00%	O, C	8-35

Molecular formula	HNO <sub>3</sub>
Molecular weight (g/mol)	63.01 g/mol
CAS No.	7697-37-2
EC No	231-714-2
INDEX no.	007-004-00-1

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### 4. First-aid measures

#### 4.1 General information

IF exposed: Immediately call a POISON CENTER or doctor/ physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

#### 4.2 After inhalation

Immediately call a POISON CENTER or doctor/ physician. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

#### 4.3 In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. Remove contaminated clothing.

#### 4.4 After eye contact

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. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

#### 4.5 After ingestion

Immediately call a POISON CENTER or doctor/ physician. Do not induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

#### 4.6 Self-protection of the first aider

First aider: Pay attention to self-protection!

#### 4.7 Information to physician:

Symptoms	No data available
Hazards	No data available
Treatment	No data available

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### 5. Firefighting measures

#### 5.1 Suitable extinguishing media

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

#### 5.2 Extinguishing media which must not be used for safety reasons:

no restriction

#### 5.3 Special hazards arising from the substance or mixture

In case of fire may be liberated: Nitrogen oxides (NOx) Sulphur oxides

#### 5.4 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

#### 5.5 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

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### 6. Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

##### - 6.1.1 For non-emergency personnel

Avoid generation of dust. Do not breathe dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Use personal protection equipment. In case of major fire and large quantities: Remove persons to safety.

##### - 6.1.2 For emergency responders

Avoid generation of dust. Do not breathe dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Use personal protection equipment. In case of major fire and large quantities: Remove persons to safety.

#### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Prevent spread over a wide area (e.g. by containment or oil barriers). Soak up inert absorbent and dispose as waste requiring special attention.

### 6.4 Additional information

Clear spills immediately.

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## 7. Handling and storage

### 7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible: Inhalation. skin contact eye contact. Keep away from sources of ignition. - No smoking. Usual measures for fire prevention. Handle under (Gas): Protective gas, dry. Protect from moisture.

#### 7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.
- Wash hands after use.
- Remove contaminated clothing.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

storage temperature 15-25°C

Keep container tightly closed in a cool, well-ventilated place. Always close containers tightly after the removal of product.

### 7.3 Specific end use(s)

No data available

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## 8. Exposure controls / Personal protection

### 8.1 Control parameters

Ingredient (Designation)	Limit value type (country of origin):	Limit value	Regulatory information
Nitric acid fuming 100%	STEL (EU)	1 ppm, 2.6 mg/m <sup>3</sup>	2006/15/EC

8.1.2 Information on currently recommended monitoring procedures  
For currently recommended monitoring procedures, see HSE series 'Methods for the Determination of Hazardous Substances' (MDHS)

## 8.2 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. Use Local exhaust ventilation (LEV).

## 8.3 Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

### 8.3.1 Eye / face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

### 8.3.2 Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	No data available
Thickness of the glove material available	No data
Breakthrough time (maximum wearing time) available	No data
Recommended glove articles available	No data

By long-term hand contact

Suitable material:	No data available
Thickness of the glove material available	No data
Breakthrough time (maximum wearing time) available	No data
Recommended glove articles available	No data

### 8.3.3 Protective clothing

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

### 8.3.4 Respiratory protection

Respiratory protection necessary at: aerosol or mist formation.

Suitable respiratory protection apparatus:	No data available
Recommendation	No data available
Suitable material:	No data available
Recommendation	No data available

## 8.4 Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a)	Appearance	Liquid Colourless
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	1.035 g/cm <sup>3</sup> (25°C)
n)	Water solubility	No data available
o)	Partition coefficient: n- octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

### 9.2 Other information

Bulk density	No data available
Refraction index	No data available
dissociation constant	No data available
Surface tension	No data available
Henry constant	No data available

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## 10. Stability and reactivity

### 10.1 Reactivity

Corrosive to metals

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

Explosive reaction with: Alkali metals Alkaline earth metal Violent reaction with: Alkali (lye) light metals  
Powdered metals

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

metal, base.

### 10.6 Hazardous decomposition products

No data available

## 10.7 Additional information

No data available

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## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

Acute oral toxicity

Effective dose

No data available

species:

No data available

Exposure time

remark

source

Acute dermal toxicity

Effective dose

No data available

species:

No data available

Exposure time

remark

source

Acute inhalation toxicity

Effective dose

No data available

species:

No data available

Exposure time

remark

source

#### Irritant and corrosive effects

Primary irritation to the

skin Exposure time

species:

Result

Irritation to

eyes Exposure

time species:

Result

Irritation to respiratory

tract Exposure time

species:

Result

#### Sensitisation

In case of skin contact

not sensitising.



After inhalation

not sensitising.

**Specific target organ toxicity (single exposure)**

not relevant

**Specific target organ toxicity (repeated exposure)**

not relevant

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**Carcinogenicity**

No indication of human carcinogenicity.

**Germ cell mutagenicity/Genotoxicity**

No indications of human germ cell mutagenicity exist.

**Reproductive toxicity**

No indications of human reproductive toxicity exist.

**Aspiration hazard**

not relevant

**11.2 Other adverse effects**

No data available

**11.3 Additional information**

No data available

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**12. Ecological information**

12.1 Ecotoxicity

**Acute (short-term) fish toxicity**

LC50: No data available

EC50

species:

Exposure time

**Chronic (long-term) fish toxicity**

LC50: No data available

EC50

**Acute (short-term) daphnia toxicity**

LC50: No data available

EC50

**Chronic (long-term) daphnia toxicity**

LC50: No data available

EC50

**Acute (short-term) algae toxicity**

LC50: No data available

EC50

**Chronic (long-term) algae toxicity**

LC50: No data available

EC50

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

(o) Partition coefficient: n-octanol/water No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT assessment**

No data available

**12.6 Other adverse effects**

No data available

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**13. Disposal considerations****13.1 Waste treatment methods****Appropriate disposal / Product**

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal. Send to a hazardous waste incinerator facility under observation of official regulations. Unused product may be returned and reused, in addition to disposal.

Waste code product

06 01 05 (nitric acid and nitrous acid)

**13.2 Additional information**

No data available

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## 14. Transport information

### 14.1 Land transport (ADR/RID)

UN-No.	2031
Proper Shipping Name	NITRIC ACID
Class(es)	8
Classification code:	CO1
Packing group	II
Hazard label(s)	8

### 14.2 Sea transport (IMDG)

UN-No.	2031
Proper Shipping Name	NITRIC ACID
Class(es)	8
Classification code:	CO1
Packing group	II
Marine pollutant	
Segregation group	

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

UN-No.	2031
Proper Shipping Name	NITRIC ACID
Class(es)	8
Classification code:	CO1
Packing group	II

### 14.4 Additional information

No data available

### 14.5 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

N/A

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## 15. Regulatory information

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

## 15.2 Chemical Safety Assessment

No data available

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## 16. Other information

### 16.1 Relevant R-, H- and EUH-phrases (Number and full text)

R34	Causes burns.
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H314	Causes severe skin burns and eye damage.
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### 16.2 Additional information

#### Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.1, 1.2, 4.1, 5.1, 6.1, 7.1, 8.1, 8.2, 11, 12, 13, 14.7, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

*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.*