



# Single-element Standard Solution for AAS. Iron (Fe) 1000mg/l in HNO<sub>3</sub> 2%

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 29/07/2013

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:

Version: 1.1

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

#### 1.1. Product identifier

Product form : Mixture  
Name : Single-element Standard Solution for AAS.  
Iron (Fe) 1000mg/l in HNO<sub>3</sub> 2%  
Product code : B119

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use, Industrial use  
Use of the substance/mixture : Certified reference material for laboratory use  
Function or use category : Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

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

##### Spectracer UK Ltd.

Second Floor,  
27 Gloucester Place,  
London,  
W1U 8HU,  
United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

Web: [www.spectracer.com](http://www.spectracer.com)

#### 1.4. Emergency telephone number

Emergency number : Tel: +44(0)1933 445260 Option 1. Language: English only.  
For Chemical Emergencies Only  
Llewellyn (Safety Advisors) Europe Ltd

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request

#### 2.3. Other hazards

No additional information available



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#### SECTION 3: Composition/information on ingredients

##### 3.1. Substance

Not applicable

##### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
nitric acid (Note B)	(CAS No) 7697-37-2. (EC no) 231-714-2 (EC index no) 007-004-00-1	1 - 5	Ox. Liq. 3, H272 Skin Corr. 1A, H314

##### Specific concentration limits:

Name	Product identifier	Specific concentration limits
nitric acid	(CAS No) 7697-37-2. (EC no) 231-714-2 (EC index no) 007-004-00-1	( 5 =<C < 20) Skin Corr. 1B, H314 ( C >= 20) Skin Corr. 1A, H314 ( 65 =<C < 99) Ox. Liq. 3, H272 ( C >= 99) Ox. Liq. 2, H272

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Full text of H-statements: see section 16

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

##### 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 : Water spray. Dry powder. Foam. Carbon dioxide.

##### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

##### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

#### SECTION 6: Accidental release measures

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

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

Emergency procedures : Ventilate spillage area.

###### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

##### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Take up liquid spill into absorbent material.



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Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat and ignition sources. Store in a well-ventilated place. Keep cool.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

nitric acid (7697-37-2.)		
Austria	Local name	Salpetersäure
Austria	MAK Short time value (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	1 ppm
Belgium	Local name	Acide nitrique
Belgium	Short time value (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	1 ppm
Bulgaria	Local name	Азотна киселина*
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Croatia	Local name	Dušična kiselina
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	1 ppm
Croatia	Naznake (HR)	EU** O, C
Czech Republic	Local name	Kyselina dusi ná
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	0,39 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	1 ppm
Denmark	Local name	Salpetersyre (2007)
Denmark	Grænseværdie (kortvarig) (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Denmark	Grænseværdie (kortvarig) (ppm)	1 ppm
Denmark	Anmærkninger (DK)	ES
Estonia	Local name	Lämmastikhape
Estonia	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	1 ppm
Finland	Local name	Typpihappo
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	1,3 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	0,5 ppm
Finland	HTP-arvo (15 min)	2,6 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	1 ppm
France	Local name	Acide nitrique
France	VLE (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
France	VLE (ppm)	1 ppm



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nitric acid (7697-37-2.)		
Germany	Local name	Salpetersäure
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1 ppm
Germany	Remark (TRGS 900)	EU,13,16
Greece	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	1 ppm
Hungary	Local name	SALÉTRÓMSAV
Hungary	CK-érték	2,6 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	i, m; l.
Ireland	Local name	Nitric acid
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	1 ppm
Ireland	Notes (IE)	IOELV
Italy	Local name	Acido nitrico
Italy	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	1 ppm
Latvia	Local name	Slāpekļskābe
Latvia	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	0,78 ppm
Latvia	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Latvia	OEL STEL (ppm)	1 ppm
Lithuania	Local name	Nitrato rūgštis (azoto rūgštis)
Lithuania	TPRV (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	1 ppm
Luxembourg	Local name	Acide nitrique
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	1 ppm
Malta	Local name	Nitric acid
Malta	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	1 ppm
Netherlands	Local name	Salpeterzuur
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	1,3 mg/m <sup>3</sup>
Poland	Local name	Kwas azotowy(V)
Poland	NDS (mg/m <sup>3</sup> )	1,4 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Portugal	Local name	Ácido nítrico
Portugal	OEL TWA (ppm)	2 ppm
Portugal	OEL STEL (ppm)	4 ppm
Romania	Local name	Acid nitric
Romania	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	1 ppm
Slovenia	Local name	dušikova kislina
Slovenia	OEL TWA (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	1 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	1 ppm
Spain	Local name	Ácido nítrico
Spain	VLA-EC (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>

nitric acid (7697-37-2.)		
Spain	VLA-EC (ppm)	1 ppm
Spain	Notes	(2007), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país.)
Sweden	Local name	Nitric acid
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	13 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	5 ppm
United Kingdom	Local name	Nitric acid
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	1 ppm
Iceland	Local name	Saltpéturssýra
Iceland	OEL (15 min ref) (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
Iceland	OEL (15 min ref) (ppm)	1 ppm
Norway	Local name	Salpetersyre
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	2 ppm
Switzerland	Local name	Acide nitrique
Switzerland	VME (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Switzerland	VME (ppm)	2 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	2 ppm
Switzerland	Remark (CH)	15 min
Australia	Local name	Nitric acid
Australia	TWA (mg/m <sup>3</sup> )	5,2 mg/m <sup>3</sup>
Australia	TWA (ppm)	2 ppm
Australia	STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Australia	STEL (ppm)	4 ppm
USA - ACGIH	Local name	Nitric acid
USA - ACGIH	ACGIH TWA (ppm)	2 ppm
USA - ACGIH	ACGIH STEL (ppm)	4 ppm
USA - ACGIH	Remark (ACGIH)	URT & eye irr; dental erosion
USA - OSHA	Local name	Nitric acid
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	2 ppm

## 8.2. Exposure controls

- Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Ensure good ventilation of the work station.
- Personal protective equipment : Protective goggles. Gloves.

Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended



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	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Miscible with water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

nitric acid (7697-37-2.)	
LC50 fish 2	72 ppm (LC50; 96 h)
LC50 other aquatic organisms 1	180 mg/l (48h) Crustaceans; Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22 (2nd Ed.), Ministry of Agric.Fish.Food, Fish.Lab.Burnham-on-Crouch, Essex, and Fish Exp.Station Conway, North Wales :12 p.
EC50 Daphnia 1	180 mg/l (EC50; 48 h)
Threshold limit algae 1	> 19 mg/l (EC0)

#### 12.2. Persistence and degradability

nitric acid (7697-37-2.)	
Persistence and degradability	Biodegradability: Not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

#### 12.3. Bioaccumulative potential

nitric acid (7697-37-2.)	
BCF fish 1	<= 1 (BCF)
Log Pow	-2,3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Bioaccumulation: Not applicable.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.



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Waste disposal recommendations	: Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

#### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

#### 14.6. Special precautions for user

##### - Overland transport

Not applicable

##### - Transport by sea

Not applicable

##### - Air transport

Not applicable

##### - Inland waterway transport

Not applicable

##### - Rail transport

Not applicable

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

Not applicable

#### SECTION 15: Regulatory information

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

###### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	nitric acid
3.b. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	nitric acid

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

###### 15.1.2. National regulations

###### Germany





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VwVwS Annex reference : Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Full text of H- and EUH-statements:

Ox. Liq. 3	Oxidising Liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H272	May intensify fire; oxidiser
H314	Causes severe skin burns and eye damage
EUH210	Safety data sheet available on request

SDS EU Mod H F (REACH ANNEX II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*