



# SINGLE ELEMENT STANDARD SOLUTION FOR AAS - BISMUTH 1000 mg/l (B 008)

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 13/11/2014

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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 - BISMUTH 1000 mg/l (B 008)  
Product code : B008

#### 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/Professional use spec : Industrial  
For professional use only  
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.  
201 Dyke Road  
BN3 1TL Hove  
United Kingdom  
T +44 (0)207 193 9114 - F +44 (0)203 432 4686  
Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

#### 1.4. Emergency telephone number

Emergency number : 112 (EU)

Country	Organisation/Company	Address	Emergency number
IRELAND (REPUBLIC OF)	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

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

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

No additional information available

#### 2.2. Label elements

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

EUH phrases : EUH210 - Safety data sheet available on request

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
nitric acid	(CAS No) 7697-37-2 (EC no) 231-714-2 (EC index no) 007-004-00-1	1 - 5	O; R8 C; R35
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) C;R34 (C ≥ 20) C;R35 (C ≥ 70) O;R8	
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
nitric acid	(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
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 (C ≥ 65) Ox. Liq. 3, H272	

Full text of R- and H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

No additional information available

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if substance enters sewers or public waters.

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

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

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

Storage conditions : Keep container closed when not in use. Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat and ignition sources.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

### 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)		
EU	IOELV STEL (mg/m <sup>3</sup> )	2,6 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	1 ppm
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

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nitric acid (7697-37-2)		
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
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
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>
Netherlands	Grenswaarde TGG 15MIN (ppm)	Salpeterzuur,0.5 ppm; Netherlands; Short time value; Public occupational exposure limit value
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
Sweden	Local name	Nitric acid

nitric acid (7697-37-2)		
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 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	Gjennomsnittsverdier (AN) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Norway	Gjennomsnittsverdier (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.
Personal protective equipment	: Protective goggles. Gloves.
Hand protection	: Wear protective gloves
Eye protection	: Chemical goggles or safety glasses
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended



Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available

Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
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)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
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

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

nitric acid (7697-37-2)	
LC50 fish 1	25 - 36 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	180 mg/l (48 h; Daphnia magna)
LC50 fish 2	72 ppm (Gambusia affinis)
Threshold limit algae 1	> 19 mg/l (Algae)

#### 12.2. Persistence and degradability

SINGLE ELEMENT STANDARD SOLUTION FOR AAS - BISMUTH 1000 mg/l (B 008)	
Persistence and degradability	Not established.
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
BOD (% of ThOD)	Not applicable

#### 12.3. Bioaccumulative potential

SINGLE ELEMENT STANDARD SOLUTION FOR AAS - BISMUTH 1000 mg/l (B 008)	
Bioaccumulative potential	Not established.
nitric acid (7697-37-2)	
BCF fish 1	<= 1 (Pisces)
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

Additional information : Avoid release to the environment

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national 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

#### 14.1. UN number

Not dangerous goods in terms of transport regulations

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	: Not applicable
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#### IMDG

Transport hazard class(es) (IMDG)	: Not applicable
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#### IATA

Transport hazard class(es) (IATA)	: Not applicable
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#### ADN

Transport hazard class(es) (ADN)	: Not applicable
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#### RID

Transport hazard class(es) (RID)	: Not applicable
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### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

#### 14.6.2. Transport by sea

#### 14.6.3. Air transport

#### 14.6.4. Inland waterway transport

Carriage prohibited (ADN)	: No
Not subject to ADN	: No

#### 14.6.5. Rail transport

Carriage prohibited (RID)	: No
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### 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
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Contains no substance on the REACH candidate list



Contains no REACH Annex XIV substances

### 15.1.2. National regulations

#### Germany

Water hazard class (WGK) : 1 - low hazard to waters  
WGK remark : Classification water polluting based on the components in compliance with  
Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE  
COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and  
mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending  
Regulation (EC) No 1907/2006.

Other information : None.

Full text of R-, H- and EUH-phrases:

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
R35	Causes severe burns
R8	Contact with combustible material may cause fire
C	Corrosive
O	Oxidising

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.*