

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1995-26 Molybdate 3 Reagent for Silica

Revision date: 02.02.2017

Product code: 199526

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

### 1.1. Product identifier

1995-26 Molybdate 3 Reagent for Silica

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

#### Use of the substance/mixture

Water analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

### 1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No. 1272/2008

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Corr. 1

Specific target organ toxicity - repeated exposure: STOT RE 1

Hazard Statements:

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes damage to organs through prolonged or repeated exposure.

### 2.2. Label elements

#### Regulation (EC) No. 1272/2008

#### Hazard components for labelling

sulphuric acid ... %

sodium hydrogensulphate

Molybdic acid

Signal word:

Danger

Pictograms:



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#### Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H372	Causes damage to organs through prolonged or repeated exposure.

#### Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310	Immediately call a POISON CENTER/doctor.

#### Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

#### 2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			> 60 %
	231-791-2			
7664-93-9	sulphuric acid ... %			< 15 %
	231-639-5	016-020-00-8		
	Skin Corr. 1A; H314			
10034-88-5	sodium hydrogensulphate			< 20 %
	231-665-7	016-046-00-X		
	Eye Dam. 1; H318			
7782-91-4	Molybdic acid			< 15 %
	231-970-5			
	Eye Irrit. 2, STOT SE 3, STOT RE 1; H319 H335 H372			

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

Take off contaminated clothing and shoes immediately. Show this safety data sheet to the doctor in attendance.

##### After inhalation

Move to fresh air. Consult a physician.

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**After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After ingestion**

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

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

Irritation and corrosion

**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, Carbon dioxide (CO<sub>2</sub>), Dry chemical

**Unsuitable extinguishing media**

No Limit

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

Hazardous decomposition products formed under fire conditions.

**5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

**Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

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

Use personal protective equipment.

**6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Soak up with inert absorbent material and dispose of as hazardous waste.

**6.4. Reference to other sections**

13. Disposal considerations

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes. Avoid contact with clothing. Do not breathe vapours/dust. Provide sufficient air exchange and/or exhaust in work rooms.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep at temperatures between 10 and 25 °C.

**Hints on joint storage**

Do not store together with Oxidizing agents, Solvent

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

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7664-93-9	Sulphuric acid (mist)	-	0.05		TWA (8 h)	WEL

##### Additional advice on limit values

None known.

#### 8.2. Exposure controls

##### Appropriate engineering controls

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Protective and hygiene measures

Wash hands before breaks and at the end of workday.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Ensure adequate ventilation, especially in confined areas.

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

##### Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

### SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	colourless, light yellow
Odour:	none
pH-Value (at 20 °C):	< 0,5

##### Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Flash point:	> 100 °C

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**Flammability**

Solid: not applicable  
Gas: not applicable

**Explosive properties**

not applicable

Lower explosion limits:

not applicable

Upper explosion limits:

not applicable

Ignition temperature:

not applicable

**Auto-ignition temperature**

Solid: not applicable

Gas: not applicable

Decomposition temperature:

not applicable

**Oxidizing properties**

not applicable

Vapour pressure:

no data available

Vapour pressure:

no data available

Density (at 20 °C):

1,2 - 1,3 g/cm<sup>3</sup>

Bulk density:

no data available

Water solubility:

soluble

(at 20 °C)

**Solubility in other solvents**

Acids

Partition coefficient:

no data available

Viscosity / dynamic:

no data available

Viscosity / kinematic:

no data available

Flow time:

no data available

Vapour density:

no data available

Evaporation rate:

no data available

Solvent separation test:

no data available

Solvent content:

no data available

**9.2. Other information**

Solid content: not applicable

May be corrosive to metals.

Mild steel : 151,6 mm/a

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Corrosive to metals

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

**10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

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#### 10.5. Incompatible materials

Incompatible with strong bases and oxidizing agents.

#### 10.6. Hazardous decomposition products

Sulphur oxides

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Toxicokinetics, metabolism and distribution

Angaben zur Toxikologie liegen nicht vor.

##### Acute toxicity

No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10034-88-5	sodium hydrogensulphate				
	oral	LD50 mg/kg	2490	rat	IUCLID

##### Irritation and corrosivity

Causes skin and eye burns.

##### Sensitising effects

No known effect.

##### Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

##### STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

##### STOT-repeated exposure

H372 - Causes damage to organs through prolonged or repeated exposure.

##### Aspiration hazard

No aspiration toxicity classification

##### Specific effects in experiment on an animal

sulphuric acid ... %: LD50/oral/rat = 2140mg/kg; LC50/inhalation/1h/mouse = 347ppm  
sodium hydrogensulphate: LD50/oral/rat = 2828mg/kg

##### Further information

Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
10034-88-5	sodium hydrogensulphate					
	Acute crustacea toxicity	EC50	190 mg/l	48 h	Daphnia magna (Water flea)	IUCLID

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

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**12.4. Mobility in soil**

no data available

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

no data available

**12.6. Other adverse effects**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

In accordance with local and national regulations.

**Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of contaminated packaging**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Marine pollutant:	--
EmS:	F-A,S-B

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III

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**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Use personal protective equipment.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Not relevant

**Other applicable information**

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P  
These transport data apply to the entire pack

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).  
Water contaminating class (D): 1 - slightly water contaminating

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

Revision: 2.02.2017  
Safety datasheet sections which have been updated: 2, 11  
Revision: 1.12.2015  
Safety datasheet sections which have been updated: 11  
Revision: 10.11.2015  
Safety datasheet sections which have been updated: 2, 8  
Revision: 26.05.2015  
Safety datasheet sections which have been updated: 2  
Revision: 18.06.2014  
Safety datasheet sections which have been updated: 9.2

**Relevant H and EUH statements (number and full text)**

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H372 Causes damage to organs through prolonged or repeated exposure.

**Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

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



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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

21062-69 Citric Acid

CAS No: 77-92-9

EC No: 201-069-1

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

Water analysis

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

Company name: HACH LANGE GmbH

Street: Willstätterstr. 11

Place: D-40549 Düsseldorf

Telephone: +49 (0)211 5288-383

e-mail: SDS@hach.com

Internet: www.de.hach.com

Responsible Department: HACH LANGE Ltd.

5, Pacific Way

Salford Manchester M50 1DL - United Kingdom

Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324

e-Mail: info-uk@hach.com

HACH LANGE Ltd.

Unit 1, Chestnut Road Western Industrial Estate

IRL-Dublin 12

Tel. +353 (0)1 4602522

e-Mail: info-ie@hach.com

**1.4. Emergency telephone number:**

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

**2.2. Label elements****Regulation (EC) No. 1272/2008**

Signal word: Warning

Pictograms:

**Hazard statements**

H315

Causes skin irritation.

H319

Causes serious eye irritation.

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**Precautionary statements**

- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362 Take off contaminated clothing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**Additional advice on labelling**

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients****3.1. Substances****Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
77-92-9	Citric acid			100 %
	201-069-1			
	Skin Irrit. 2; Eye Irrit. 2; H315 H319			

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

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

- Take off contaminated clothing and shoes immediately.  
Show this safety data sheet to the doctor in attendance.

**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After ingestion**

Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician.

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

irritant effects

**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**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

The following may develop in event of fire: sulfur oxides., Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

#### **5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

#### **Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

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

Use personal protective equipment.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Sweep up or vacuum up spillage and collect in suitable container for disposal.

#### **6.4. Reference to other sections**

13. Disposal considerations

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Avoid contact with skin and eyes.

Use only in well-ventilated areas. Do not breathe vapours/dust.

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

##### **Requirements for storage rooms and vessels**

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

##### **Further information on storage conditions**

Keep locked up or in an area accessible only to qualified or authorised persons.

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

Laboratory chemicals

### SECTION 8: Exposure controls/personal protection

#### **8.1. Control parameters**

#### **8.2. Exposure controls**

##### **Appropriate engineering controls**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### **Protective and hygiene measures**

Wash hands before breaks and at the end of workday.

##### **Eye/face protection**

Safety glasses with side-shields

##### **Hand protection**

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

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**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

Provide adequate ventilation.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	white
Odour:	odourless
pH-Value (at 20 °C):	1,7 (100g/l)

**Changes in the physical state**

Melting point:	153 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	no data available
Softening point:	no data available
Pour point:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

**Flammability**

Solid:	not applicable
Gas:	not applicable

**Explosive properties**

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	540 °C

**Auto-ignition temperature**

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	175 °C
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**Oxidizing properties**

not applicable

Vapour pressure:	< 0,1 hPa
Vapour pressure:	no data available
Density (at 20 °C):	1,665 g/cm <sup>3</sup>
Bulk density:	approx. 560 kg/m <sup>3</sup>
Water solubility: (at 20 °C)	750 g/L

**Solubility in other solvents**

Alcohol, Diethylether

Partition coefficient:	not applicable
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable

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Vapour density: not applicable  
 Evaporation rate: not applicable  
 Solvent separation test: not applicable  
 Solvent content: not applicable

#### 9.2. Other information

Solid content: no data available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

#### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents, Metals, Bases, Reducing agents

#### 10.4. Conditions to avoid

Exposure to moisture.

#### 10.5. Incompatible materials

sodium nitrite, potassium nitrite

#### 10.6. Hazardous decomposition products

no data available

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
77-92-9	Citric acid				
	oral	LD50 mg/kg 3000	rat	IUCLID	
	dermal	LD50 mg/kg >2000	rat	IUCLID	

##### Irritation and corrosivity

Causes skin irritation.  
 Causes serious eye irritation.

##### Sensitising effects

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

##### Carcinogenic/mutagenic/toxic effects for reproduction

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.

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**Specific effects in experiment on an animal**

rabbit skin 500 mg/24 h - Moderate skin irritation

rabbit eye 750 µg/24 h - Severe eye irritation

**Further information**

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12: Ecological information**
**12.1. Toxicity**

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
77-92-9	Citric acid					
	Acute fish toxicity	LC50 mg/l	440-760	96 h	Leuciscus idus (Golden orfe)	
	Acute crustacea toxicity	EC50	160 mg/l	48 h	Crustacea	

**12.2. Persistence and degradability**

Readily eliminated from water

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
77-92-9	Citric acid				
	OECD Test Guideline 302	98 %	2	IUCLID	
	Biochemical Oxygen Demand (BOD)	526 mg/g	5	IUCLID	

**12.3. Bioaccumulative potential**

Bioaccumulation is unlikely.

**12.4. Mobility in soil**

no data available

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

no data available

**12.6. Other adverse effects**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**
**13.1. Waste treatment methods**
**Advice on disposal**

In accordance with local and national regulations.

**Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of contaminated packaging**

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160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**SECTION 14: Transport information****Land transport (ADR/RID)****Other applicable information (land transport)**

Not subject to transport regulations.

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)****Other applicable information (marine transport)**

Not subject to transport regulations.

**Air transport (ICAO-TI/IATA-DGR)****Other applicable information (air transport)**

Not subject to transport regulations.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

no data available

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Not relevant

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

Classification according to EU Directives 67/548/EEC or 1999/45/EC

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**National regulatory information**

Water contaminating class (D): 1 - slightly water contaminating

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

Revision: 03.01.2019

Safety datasheet sections which have been updated: 15

Revision: 1.09.2015

Safety datasheet sections which have been updated: 8

**Relevant H and EUH statements (number and full text)**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

**Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances of product



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properties and establishes no contract legal rights.



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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

22540-69 Amino Acid F Reagent Powder Pillow

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

Water analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

**1.4. Emergency telephone number:**

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Resp. Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Harmful if swallowed.

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

sodium metabisulphite

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**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

**Additional advice on labelling**

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

no data available

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	GHS Classification	
7681-57-4	sodium metabisulphite	95-100 %
	231-673-0	01-2119531326-45
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, STOT SE 3, Aquatic Chronic 3; H332 H312 H302 H315 H318 H334 H335 H412 EUH031	
confidential	Fast Amino Acid	1-5 %

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

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

Take off all contaminated clothing immediately.

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**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water. Call a physician immediately. Show this safety data sheet to the doctor in attendance.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After ingestion**Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.  
Call a physician immediately. Show this safety data sheet to the doctor in attendance.**4.2. Most important symptoms and effects, both acute and delayed**

reizende Wirkungen, Allergische Reaktionen, sensibilisierende Wirkungen, Shortness of breath, Cough

**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**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Fire may liberate hazardous vapours.

The following may develop in event of fire: sulfur oxides., Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), Sodium oxides.**5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

**Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

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

Use personal protective equipment.

**6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

**6.4. Reference to other sections**

13. Disposal considerations

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep in a dry place.

**Hints on joint storage**

Incompatible with strong acids and oxidizing agents.

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

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7681-57-4	Disodium disulphite	-	5		TWA (8 h)	WEL

#### 8.2. Exposure controls



##### Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

### SECTION 9: Physical and chemical properties

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

Physical state:	solid
Colour:	green, brown
Odour:	odourless
pH-Value (at 20 °C):	4,3 (5 % solution)

##### Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	not applicable
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	no data available

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:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available
<b>Flammability</b>	
Solid:	not applicable
Gas:	not applicable
<b>Explosive properties</b>	
not applicable	
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable
<b>Auto-ignition temperature</b>	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	no data available
<b>Oxidizing properties</b>	
not applicable	
Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	1,48 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility: (at 20 °C)	moderately soluble
<b>Solubility in other solvents</b>	
HCl, H <sub>2</sub> SO <sub>4</sub>	
Partition coefficient:	no data available
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable
Vapour density:	no data available
Evaporation rate:	no data available
Solvent separation test:	not applicable
Solvent content:	not applicable
<b><u>9.2. Other information</u></b>	
Solid content:	not applicable
no data available	

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

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#### 10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat. Exposure to moisture.

#### 10.5. Incompatible materials

Acids, Oxidizing agents

#### 10.6. Hazardous decomposition products

Sulphur oxides, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

#### Further information

No dangerous reaction known under conditions of normal use.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

Harmful if swallowed.

Harmful if inhaled.

##### ATEmix calculated

ATE (oral) 1154,1 mg/kg; ATE (inhalation vapour) 11,22 mg/l; ATE (inhalation aerosol) 2,051 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7681-57-4	sodium metabisulphite				
	oral	LD50 1131 mg/kg	Rat		
	dermal	LD50 2000 mg/kg	Rat	RTECS	
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) aerosol	LC50 2,01 mg/l	Rat		
confidential	Fast Amino Acid				
	oral	LD50 >=2000 mg/kg	Rat		

##### Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

##### Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (sodium metabisulphite)

##### Carcinogenic/mutagenic/toxic effects for reproduction

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

Contains no ingredient listed as a carcinogen

##### STOT-single exposure

May cause respiratory irritation. (sodium metabisulphite)

##### 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.

##### Specific effects in experiment on an animal

sodium metabisulphite: LD50/dermal/guinea-pigs = > 1000 mg/kg; LD50/oral/rat = 1131 mg/kg

rabbit skin: No skin irritation; rabbit eye: irritating

Fast Amino Acid: LD50/oral/rat = > 2000 mg/kg

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#### Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7681-57-4	sodium metabisulphite					
	Acute fish toxicity	LC50 32 mg/l	96 h	Lepomis macrochirus (Bluegill sunfish)	OECD	
	Acute crustacea toxicity	EC50 89 mg/l	48 h	Daphnia magna (Water flea)	OECD	
confidential	Fast Amino Acid					
	Acute fish toxicity	LC50 218 mg/l	96 h	Daphnia		
	Acute algae toxicity	ErC50 157 mg/l	96 h	Scenedesmus quadricauda (Green algae)		

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

#### 12.4. Mobility in soil

no data available

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

no data available

#### 12.6. Other adverse effects

Ecological injuries are not known or expected under normal use.

#### Further information

Do not flush into surface water or sanitary sewer system.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

##### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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#### SECTION 14: Transport information

##### Land transport (ADR/RID)

###### Other applicable information (land transport)

Not subject to transport regulations.

##### Inland waterways transport (ADN)

###### Other applicable information (inland waterways transport)

Not tested

##### Marine transport (IMDG)

###### Other applicable information (marine transport)

Not subject to transport regulations.

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

###### Other applicable information (air transport)

Not subject to transport regulations.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

Use personal protective equipment.

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

#### SECTION 15: Regulatory information

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

###### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly water contaminating

##### 15.2. Chemical safety assessment

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

#### SECTION 16: Other information

##### Changes

Revision: 14.06.2019

Safety datasheet sections which have been updated: 3, 4, 8

Revision: 07.03.2019

Safety datasheet sections which have been updated: 2, 11, 15

Revision: 14.08.2017

Safety datasheet sections which have been updated: 2, 9, 11

Revision: 08.06.2016

Safety datasheet sections which have been updated: 11

Revision: 06.04.2016

Safety datasheet sections which have been updated: 2, 4, 11

Revision: 1.09.2015

Safety datasheet sections which have been updated: 2, 3

Revision: 21.04.2015

Safety datasheet sections which have been updated: 2, 11



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Revision: 18.06.2014

Safety datasheet sections which have been updated: 4.2

Revision: 16. 05.2013

#### Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Resp. Sens. 1; H334	Calculation method
STOT SE 3; H335	Calculation method
Aquatic Chronic 3; H412	Calculation method

#### Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

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