

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 689 Reagent A 1/1**

Revision date: 19.04.2018

Product code: BCF689

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

BCF 689 Reagent A 1/1

**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****Hazard components for labelling**

sulphuric acid ... %

**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.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P313 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

#### 3.2. 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			90 - 100 %
	231-791-2			
7664-93-9	Sulphuric acid ... %			5 - < 10 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Skin Corr. 1A; H314			

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.  
 If symptoms persist, call a physician.

##### 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

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

May cause skin irritation. May cause eye irritation.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

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#### 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.

#### 5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

#### 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 (e.g. sand, silica gel, acid binder, universal binder, sawdust). 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 and eyes.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

##### 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)

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

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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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Environmental exposure controls**

Should not be released into the environment.

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

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	< 1
<b>Changes in the physical state</b>	
Melting point:	not applicable
Initial boiling point and boiling range:	112 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Flash point:	not applicable
<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: (at 10 °C)	15 hPa
Density (at 20 °C):	1,055 g/cm <sup>3</sup>

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Bulk density:	not applicable
Water solubility: (at 20 °C)	soluble
<b>Solubility in other solvents</b>	
soluble	
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
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### **SECTION 10: Stability and reactivity**

#### **10.1. Reactivity**

May be corrosive to metals.

#### **10.2. Chemical stability**

Stable under recommended storage conditions.

#### **10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

#### **10.5. Incompatible materials**

None known.

#### **10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.  
Contact with metals liberates hydrogen gas.

#### **Further information**

Stable under recommended storage conditions.

### **SECTION 11: Toxicological information**

#### **11.1. Information on toxicological effects**

##### **Acute toxicity**

No toxicology information is available.

##### **Irritation and corrosivity**

May cause eye and skin irritation.

##### **Sensitising effects**

No data is available on the product itself.

##### **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**

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

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#### Aspiration hazard

No aspiration toxicity classification

#### Specific effects in experiment on an animal

No data is available on the product itself.

#### 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 information on ecology is available.  
Do not flush into surface water or sanitary sewer system.

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

No data is available on the product itself.

#### 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. Our local agencies will accept used cuvettes to ensure their proper disposal.

##### 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)

- 14.1. UN number: -  
14.2. UN proper shipping name: -  
14.3. Transport hazard class(es): -  
14.4. Packing group: -

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**Other applicable information (land transport)**

Not classified as dangerous in the meaning of transport regulations.

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

Not tested

**Marine transport (IMDG)****14.1. UN number:** -**14.2. UN proper shipping name:** -**14.3. Transport hazard class(es):** -**14.4. Packing group:** -

Marine pollutant: --

EmS: -

**Other applicable information (marine transport)**

Not classified as dangerous in the meaning of transport regulations.

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number:** -**14.2. UN proper shipping name:** -**14.3. Transport hazard class(es):** -**14.4. Packing group:** -**Other applicable information (air transport)**

Not classified as dangerous in the meaning of 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

**Other applicable information**

Not relevant

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

Restrictions on use (REACH, annex XVII):

Entry 3: Sulphuric acid ... %

**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):

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**

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Revision: 19.04.2018

Safety datasheet sections which have been updated: 3, 8

Revision Date 11.06.2014

Safety datasheet sections which have been updated: 4-16

Revision Date 14.09.2010

Safety datasheet sections which have been updated: 2

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

H314 Causes severe skin burns and eye damage.

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 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**

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**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

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

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

sulphuric 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.

#### Precautionary statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P310 Immediately call a POISON CENTER/doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### 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

#### 3.2. 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			90 - 100 %
	231-791-2			
7664-93-9	Sulphuric acid ... %			5 - < 10 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Skin Corr. 1A; H314			

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.  
If symptoms persist, call a physician.

##### 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

- In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### After ingestion

- Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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#### 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

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.

#### 5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

#### 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 (e.g. sand, silica gel, acid binder, universal binder, sawdust). 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 and eyes.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

#### 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

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#### Additional advice on limit values

None known.

#### 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.

General industrial hygiene practice.

##### 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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

##### Environmental exposure controls

Should not be released into the environment.

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	< 1

#### Changes in the physical state

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

#### Flammability

Solid:	not applicable
Gas:	not applicable

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**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:

no data available

**Oxidizing properties**

not applicable

Vapour pressure:

15 hPa

(at 10 °C)

Density (at 20 °C):

1,035 g/cm<sup>3</sup>

Bulk density:

not applicable

Water solubility:

soluble

(at 20 °C)

**Solubility in other solvents**

soluble

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

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

May be corrosive to metals.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

Contact with metals liberates hydrogen gas.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

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**Acute toxicity**

No toxicology information is available.

**Irritation and corrosivity**

Causes skin and eye burns.

**Sensitising effects**

No data is available on the product itself.

**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**

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

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No data is available on the product itself.

**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 information on ecology is available.  
Do not flush into surface water or sanitary sewer system.**12.2. Persistence and degradability**

No data is available on the product itself.

**12.3. Bioaccumulative potential**

No data is available on the product itself.

**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. Our local agencies will accept used cuvettes to ensure their proper disposal.

**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

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#### 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)

**14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid ... %)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8



Classification code: C1  
Special Provisions: 274  
Limited quantity: 5 L  
Excepted quantity: E1  
Transport category: 3  
Hazard No: 80  
Tunnel restriction code: E

#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

**14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric acid)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8



Marine pollutant: --  
Special Provisions: 223, 274  
Limited quantity: 5 L  
Excepted quantity: E1  
EmS: F-A, S-B

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

**14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric acid)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8

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Special Provisions:	A3 A803	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y841	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		852
IATA-max. quantity - Passenger:		5 L
IATA-packing instructions - Cargo:		856
IATA-max. quantity - Cargo:		60 L

#### **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

#### **Other applicable information**

Not relevant

### SECTION 15: Regulatory information

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

##### **EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3: Sulphuric acid ... %

##### **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): 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: 19.04.2018

Safety datasheet sections which have been updated: 3, 8

Revision: 10.01.2018

Safety datasheet sections which have been updated: 2, 4, 7, 10, 11, 14

Revision: 20.05.2015

Safety datasheet sections which have been updated: 2, 4, 8, 11, 16

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

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



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 691 Reagent C 1/1**

Revision date: 19.04.2018

Product code: BCF691

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

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

**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.

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 692 Reagent D 1/1**

Revision date: 12.05.2017

Product code: BCF692

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

BCF 692 Reagent D 1/1

CAS No: 7732-18-5

EC No: 213-791-2

**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 -

**Further Information**

A registration number is not available for this substance because the substance or the use of this substance is exempt from registration pursuant to Article 2 of Regulation (EC) 1907/2006 (REACH), because the annual tonnage does not require registration or because registration is planned at a later date.

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

This substance is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

**2.2. Label elements****Additional advice on labelling**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

no data available

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

Molecular weight: 18,02 g/mol

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 692 Reagent D 1/1**

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**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			100 %
	231-791-2			

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

**Further Information**

No dangerous ingredients according to Regulation (EC) No. 1907/2006

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

No hazards which require special first aid measures.

**After inhalation**

No hazards which require special first aid measures.

**After contact with skin**

No hazards which require special first aid measures.

**After contact with eyes**

No hazards which require special first aid measures.

**After ingestion**

No hazards which require special first aid measures.

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

No known effect.

**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.

The product itself does not burn.

**Unsuitable extinguishing media**

None known.

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

The product itself does not burn.

**5.3. Advice for firefighters**

None known.

**Additional information**

None known.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

No conditions to be specially mentioned.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BCF 692 Reagent D 1/1

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

No special environmental precautions required.

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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**

Observe label precautions.

##### **Advice on protection against fire and explosion**

See also section 5

##### **Further information on handling**

Keep in a dry, cool place.

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

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

Keep container tightly closed in a dry and well-ventilated place.

##### **Hints on joint storage**

no data available

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

no data available

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

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

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

##### **Additional advice on limit values**

None known.

#### **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**

See also section 7.1

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

Not required

##### **Hand protection**

Not required

##### **Skin protection**

Not required

##### **Respiratory protection**

Not required

##### **Environmental exposure controls**

No special technical protective measures required.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 692 Reagent D 1/1**

Revision date: 12.05.2017

Product code: BCF692

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

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	7

**Changes in the physical state**

Melting point:	0 °C
Initial boiling point and boiling range:	100 °C
Sublimation point:	no data available
Softening point:	no data available
Pour point:	no data available
:	no data available
Flash point:	no data available
Sustaining combustion:	No data available

**Flammability**

Solid:	not applicable
Gas:	no data available

**Explosive properties**

no data available

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
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**Oxidizing properties**

no data available

Vapour pressure:	23 hPa
Vapour pressure:	no data available
Density (at 20 °C):	1,0 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility: (at 20 °C)	completely soluble

**Solubility in other solvents**

Acids soluble

Partition coefficient:	not applicable
Viscosity / dynamic: (at 20 °C)	0,952 mPa·s
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	no data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BCF 692 Reagent D 1/1

Revision date: 12.05.2017

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Solvent separation test: no data available

Solvent content: no data available

#### **9.2. Other information**

Solid content: no data available

no data available

### **SECTION 10: Stability and reactivity**

#### **10.1. Reactivity**

See also section 10.3

#### **10.2. Chemical stability**

Stable under recommended storage conditions.

#### **10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

Hazardous polymerisation does not occur.

#### **10.4. Conditions to avoid**

None known.

#### **10.5. Incompatible materials**

None known.

#### **10.6. Hazardous decomposition products**

None known.

#### **Further information**

None known.

### **SECTION 11: Toxicological information**

#### **11.1. Information on toxicological effects**

##### **Toxicokinetics, metabolism and distribution**

No toxicology information is available.

##### **Acute toxicity**

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

no data available

##### **Irritation and corrosivity**

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

No known effect.

##### **Sensitising effects**

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

Contains no substance or substances classified as sensitising.

##### **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**

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

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

##### **STOT-repeated exposure**

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

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BCF 692 Reagent D 1/1

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**Aspiration hazard**

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

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No toxicology information is available.

**Additional information on tests**

no data available

**Practical experience****Observations relevant to classification**

no data available

**Other observations**

no data available

**Further information**

no data available

## SECTION 12: Ecological information

**12.1. Toxicity**

No information on ecology is available.

No data is available on the product itself.

**12.2. Persistence and degradability**

No data is available on the product itself.

**12.3. Bioaccumulative potential**

not applicable

**12.4. Mobility in soil**

no data available

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

no data available.

A Chemical Safety Assessment is not required for this substance.

**12.6. Other adverse effects**

None known.

**Further information**

no data available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods****Advice on disposal**

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

**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**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BCF 692 Reagent D 1/1**

Revision date: 12.05.2017

Product code: BCF692

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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

**Contaminated packaging**

Dispose of as unused product.

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

Not classified as dangerous in the meaning of transport regulations.

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

Not tested

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

Not classified as dangerous in the meaning of transport regulations.

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

Not classified as dangerous in the meaning of transport regulations.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Not relevant

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

Not relevant

**Other applicable information**

no data available

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

Water contaminating class (D): -- not water contaminating

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment is not required.

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

Revision: 12.05.2017

Safety datasheet sections which have been updated: 1 - 16

Revision: 21.05.2015

Safety datasheet sections which have been updated: 2

**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.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BZC 822 Additional Components Reagent A**

Revision date: 31.07.2017

Product code: BCZ822

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

BZC 822 Additional Components Reagent A

CAS No: 7775-27-1

EC No: 231-892-1

**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:

Oxidising solid: Ox. Sol. 3

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

May intensify fire; oxidiser.

Harmful if swallowed.

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

May cause respiratory irritation.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

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

**Safety Data Sheet**

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**BZC 822 Additional Components Reagent A**

Revision date: 31.07.2017

Product code: BCZ822

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**Hazard components for labelling**

Sodium peroxodisulfate

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H272 May intensify fire; oxidiser.  
 H302 Harmful if swallowed.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H319 Causes serious eye irritation.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.

**Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 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**

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]	
7775-27-1	Sodium peroxodisulfate	100 %
	231-892-1	
	Ox. Sol. 3, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3; H272 H302 H315 H319 H334 H317 H335	

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. Consult a physician.

**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BZC 822 Additional Components Reagent A

Revision date: 31.07.2017

Product code: BCZ822

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#### **After contact with eyes**

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

#### **After ingestion**

Clean mouth with water and drink afterwards plenty of water. Consult a physician.

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

Allergic reactions, Cough, Shortness of breath, Nausea, Vomiting

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

##### **Unsuitable extinguishing media**

None known.

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

Not combustible.

Fire may liberate hazardous vapours.

The following may develop in event of fire: sulfur 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.

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

13. Disposal considerations

### SECTION 7: Handling and storage

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

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

Use only in well-ventilated areas.

Do not breathe vapours/dust.

##### **Further information on handling**

Use barrier skin cream.

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

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

Keep in a dry, cool place.

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

Do not store near combustible materials.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BZC 822 Additional Components Reagent A**

Revision date: 31.07.2017

Product code: BCZ822

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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
7775-27-1	(OLD) Disodium peroxodisulphate (measured as [S2O8])	-	1		TWA (8 h)	OES

**Additional advice on limit values**

None known.

**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.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

Use barrier skin cream.

Wash hands before breaks and after work.

Chemical resistant protective gloves

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374.

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

**Skin protection**

Avoid contact with skin and eyes.

**Respiratory protection**

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: Half mask with a particle filter P2 (EN 143).

**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:	solid
Colour:	white
Odour:	odourless
pH-Value (at 20 °C):	3,5-3,8 (10 % solution)

**Changes in the physical state**

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**BZC 822 Additional Components Reagent A**

Revision date: 31.07.2017

Product code: BCZ822

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Pour point: not applicable  
Decomposition temperature: > 148 °C  
Flash point: not applicable  
Sustaining combustion: No data available

**Flammability**

Solid: no data available  
Gas: no data available

**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: &gt; 148 °C

**Oxidizing properties**

no data available

Vapour pressure: not applicable  
Vapour pressure: not applicable

Density (at 20 °C): 1,10 g/cm<sup>3</sup>Bulk density: 1150 kg/m<sup>3</sup>Water solubility:  
(at 20 °C) 545 g/L**Solubility in other solvents**

no data available

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

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

no data available

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

Oxidising

Oxidizing agents (strong)

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BZC 822 Additional Components Reagent A

Revision date: 31.07.2017

Product code: BCZ822

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Reacts with the following substances: Reducing agents, Alcohols, Strong acids, Bases

#### **10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

#### **10.5. Incompatible materials**

Reducing agents  
Combustible material

#### **10.6. Hazardous decomposition products**

Sulphur oxides  
Oxygen

#### **Further information**

Stable under recommended storage conditions.

## SECTION 11: Toxicological information

### **11.1. Information on toxicological effects**

#### **Acute toxicity**

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7775-27-1	Sodium peroxodisulfate				
	oral	LD50 mg/kg	920	rat	
	inhalation (4 h) aerosol	LC50 mg/l	> 5,1	Merck	

#### **Irritation and corrosivity**

Causes serious eye irritation.  
Causes skin irritation.

#### **Sensitising effects**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Sodium peroxodisulfate)  
May cause an allergic skin reaction. (Sodium peroxodisulfate)

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

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

#### **STOT-single exposure**

May cause respiratory irritation. (Sodium peroxodisulfate)  
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

#### **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.  
No aspiration toxicity classification

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

No toxicology information is available.

#### **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**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### BZC 822 Additional Components Reagent A

Revision date: 31.07.2017

Product code: BCZ822

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No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7775-27-1	Sodium peroxodisulfate					
	Acute fish toxicity	LC50	771 mg/l	96 h	Oncorhynchus mykiss (rainbow trout)	
	Acute crustacea toxicity	EC50	133 mg/l	48 h	Daphnia magna (Water flea)	

#### 12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

#### 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

Discharge into the environment must be avoided.

#### Further information

no data available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

Our local agencies will accept used cuvettes to ensure their proper 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

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number:</b>	UN 1505
<b>14.2. UN proper shipping name:</b>	Sodium peroxodisulfate
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	III
Hazard label:	5.1



Classification code: O2

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### BZC 822 Additional Components Reagent A

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Limited quantity: 5 kg  
 Excepted quantity: E1  
 Transport category: 3  
 Hazard No: 50  
 Tunnel restriction code: E

#### Inland waterways transport (ADN)

**14.2. UN proper shipping name:** Not tested

#### Marine transport (IMDG)

**14.1. UN number:** UN 1505  
**14.2. UN proper shipping name:** Sodium persulphate  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** III  
 Hazard label: 5.1



Marine pollutant: --  
 Special Provisions: -  
 Limited quantity: 5 kg  
 Excepted quantity: E1  
 EmS: F-A, S-Q  
 Segregation group: peroxides

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

**14.1. UN number:** UN 1505  
**14.2. UN proper shipping name:** Sodium persulphate  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** III  
 Hazard label: 5.1



Special Provisions: A803  
 Limited quantity Passenger: 10 kg  
 Passenger LQ: Y546  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 559  
 IATA-max. quantity - Passenger: 25 kg  
 IATA-packing instructions - Cargo: 563  
 IATA-max. quantity - Cargo: 100 kg

#### 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

#### Other applicable information

Not relevant



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#### SECTION 15: Regulatory information

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

###### EU regulatory information

###### Additional information

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 Date 31.07.2017

Safety datasheet sections which have been updated: 8, 9, 11, 15

Revision Date 27.05.2014

Safety datasheet sections which have been updated: 4-16

Revision Date 05.08.2010

Safety datasheet sections which have been updated: 2

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

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

##### 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.

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according to Regulation (EC) No 1907/2006

**BCZ 824 Additional component D 1/1**

Revision date: 19.04.2018

Product code: BCZ824

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

BCZ 824 Additional component D 1/1

CAS No: 50-81-7  
EC No: 200-066-2**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.comHACH 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**

This substance is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

**2.2. Label elements****Additional advice on labelling**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

None known.

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

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
50-81-7	Ascorbic acid			100,0 %
	200-066-2			

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.  
If symptoms persist, call a physician.

**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**

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

None known.

**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.

**Unsuitable extinguishing media**

None known.

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

Fire may liberate hazardous vapours.

**5.3. Advice for firefighters**

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

**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**

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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**

Use only in well-ventilated areas. Avoid contact with skin and eyes.

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

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

Keep container tightly closed in a dry and well-ventilated place.

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

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

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

##### **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.

Smoking, eating and drinking should be prohibited in the application area.

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

Safety glasses with side-shields

##### **Hand protection**

Use barrier skin cream.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### **Skin protection**

Avoid contact with skin, eyes and clothing.

##### **Respiratory protection**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

##### **Environmental exposure controls**

Should not be released into the environment.

### SECTION 9: Physical and chemical properties

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

Physical state:

solid

Colour:

white

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**BCZ 824 Additional component D 1/1**

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Product code: BCZ824

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Odour:	odourless
pH-Value (at 20 °C):	2,2
<b>Changes in the physical state</b>	
Melting point:	190-192 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	not applicable
Softening point:	not applicable
Flash point:	not applicable
<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:	380 °C
<b>Auto-ignition temperature</b>	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	>192 °C
<b>Oxidizing properties</b>	
not applicable	
Vapour pressure: (at 20 °C)	not applicable
Density (at 20 °C):	1,65 g/cm <sup>3</sup>
Bulk density:	500-900 kg/m <sup>3</sup>
Water solubility: (at 20 °C)	soluble
<b>Solubility in other solvents</b>	
no data available	
Partition coefficient:	-2,15
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable
Vapour density:	not applicable
Evaporation rate:	not applicable
Solvent separation test:	not applicable
Solvent content:	not applicable
<b>9.2. Other information</b>	
Solid content:	not applicable

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

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

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according to Regulation (EC) No 1907/2006

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Sensitivity to light, Sensitive to air.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Aluminium, Zinc, Copper, Oxidizing agents

**10.4. Conditions to avoid**Extremes of temperature and direct sunlight.  
To avoid thermal decomposition, do not overheat.**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No toxicology information is available.

**Acute toxicity**

No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
50-81-7	Ascorbic acid				
	oral	LD50 mg/kg	11900	rat	RTECS

**Irritation and corrosivity**

No known effect.

**Sensitising effects**

No known effect.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No data is available on the product itself.

**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.  
Should not be released into the environment.**12.2. Persistence and degradability**

Readily eliminated from water

**12.3. Bioaccumulative potential**

No data is available on the product itself.

**12.4. Mobility in soil**

no data available

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

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no data available

#### 12.6. Other adverse effects

No known effect.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

##### 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

##### Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

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

Not classified as dangerous in the meaning of transport regulations.

#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

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

Not classified as dangerous in the meaning of transport regulations.

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

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

Not classified as dangerous in the meaning of 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 applicable

### SECTION 15: Regulatory information

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

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#### EU regulatory information

##### Additional information

The product does not need to be labelled in accordance with EC directives or respective national laws.

##### National regulatory information

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: 19.04.2018

Safety datasheet sections which have been updated: 2, 8, 12

#### 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.