

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**14577-99 Ascorbic Acid PP**

Revision date: 19.10.2017

Product code: 1457799

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

14577-99 Ascorbic Acid PP

**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**

This mixture 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****3.2. Mixtures****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			> 99 %
	200-066-2			

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

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#### 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 soap and plenty of water.  
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.  
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

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.

##### 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

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#### Advice on safe handling

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

#### 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

Incompatible with oxidizing agents.

##### Further information on storage conditions

Sensitivity to light

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

Laboratory chemicals

## 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.

##### 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: &gt;480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: &gt; 30 min

##### 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, light yellow
Odour:	odourless
pH-Value (at 20 °C):	2,3 (5 % solution)

##### Changes in the physical state

Melting point:	192 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable

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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:	not applicable
<b>Oxidizing properties</b>	
not applicable	
Vapour pressure:	not applicable
Vapour pressure:	not applicable
Density (at 20 °C):	1,65 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility: (at 20 °C)	soluble
<b>Solubility in other solvents</b>	
Alcohol	
Partition coefficient:	no data available
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:	no data available
no data available	

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

Reducing agents

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

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

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**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.  
Exposure to moisture.

**10.5. Incompatible materials**

Bases, Oxidizing agents, Copper, Iron

**10.6. Hazardous decomposition products**

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

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

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

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.  
No known effect.

**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.

**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**

None known.

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

None known.

**Other observations**

None known.

**Further information**

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

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## SECTION 12: Ecological information

### 12.1. Toxicity

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

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

No known effect.

### **Further information**

No known effect.

## 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)**

#### **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.

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#### 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

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: 19.10.2017

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

#### 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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Product code: 2122332

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

21223-32 Alkaline Cyanide Reagent

**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. 2

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 3

Skin corrosion/irritation: Skin Corr. 1B

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Fatal in contact with skin.

Toxic if swallowed.

Toxic if inhaled.

Causes severe skin burns and eye damage.

Very toxic to aquatic life with long lasting effects.

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

Sodium cyanide

sodium hydroxide; caustic soda

**Signal word:** Danger



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#### Pictograms:



#### Hazard statements

- H310 Fatal in contact with skin.  
 H301+H331 Toxic if swallowed or if inhaled.  
 H314 Causes severe skin burns and eye damage.  
 H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

- P270 Do not eat, drink or smoke when using this product.  
 P262 Do not get in eyes, on skin, or on clothing.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 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

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	85-90 %
	231-791-2	
143-33-9	Sodium cyanide	1-7 %
	205-599-4	
	006-007-00-5	
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Aquatic Acute 1, Aquatic Chronic 1; H310 H330 H300 H400 H410 EUH032	
1310-73-2	sodium hydroxide; caustic soda	1-5 %
	215-185-5	
	011-002-00-6	
	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 all contaminated clothing immediately.

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Consult a physician. Show this safety data sheet to the doctor in attendance.

#### **After inhalation**

Call a physician or poison control centre immediately. Show this safety data sheet to the doctor in attendance.

#### **After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes. Consult a physician. 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. Show this safety data sheet to the doctor in attendance.

#### **After ingestion**

Call a physician or poison control centre immediately. Show this safety data sheet to the doctor in attendance.

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

Irritation and corrosion, Cough, Shortness of breath, Unconsciousness, Spasm

#### **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. (Cyanides)

#### **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**

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 tightly closed in a dry, cool and well-ventilated place. Accessible only for authorized persons.

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

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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
143-33-9	Sodium cyanide (as cyanide)	-	5		TWA (8 h)	WEL
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	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**

Remove and wash contaminated clothing before re-use.

**Respiratory protection**

Use respirator when performing operations involving potential exposure to vapour of the product.

respirator with Type: B filter

**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):	12,3

**Changes in the physical state**

Melting point:	no data available
Initial boiling point and boiling range:	92 °C
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:

not applicable

**Oxidizing properties**

not applicable

Vapour pressure:

no data available

Density (at 20 °C):

1,112 g/cm<sup>3</sup>

Bulk density:

not applicable

Water solubility:

completely 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:

0,57

(at 20 °C)

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**

Reactivity Hazard: Acids

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Acids

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

Acids, Oxidizing agents

**10.6. Hazardous decomposition products**

Contact with acids liberates toxic gas.

**SECTION 11: Toxicological information**

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**11.1. Information on toxicological effects**
**Acute toxicity**

H310 - Fatal in contact with skin.  
Toxic by inhalation and if swallowed.

**ATEmix calculated**

ATE (oral) 73,5 mg/kg; ATE (dermal) 113,2 mg/kg; ATE (inhalation vapour) 7,35 mg/l; ATE (inhalation aerosol) 0,735 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
143-33-9	Sodium cyanide				
	oral	LD50 4,8 mg/kg	rat		
	dermal	LD50 7,7 mg/kg	rabbit		
	inhalation (1 h) vapour	LC50 0,16 mg/l	rat		
	inhalation aerosol	ATE 0,05 mg/l			

**Irritation and corrosivity**

The product causes burns of eyes, skin and mucous membranes.

**Sensitising effects**

No sensitisation responses were observed.

**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 data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
143-33-9	Sodium cyanide					
	Acute fish toxicity	LC50 0,083 mg/l	96 h	Lepomis macrochirus (Bluegill sunfish)		
1310-73-2	sodium hydroxide; caustic soda					
	Acute fish toxicity	LC50 45,4 mg/l	96 h	Onchorhynchus mykiss		

**12.2. Persistence and degradability**

No data is available on the product itself.

**12.3. Bioaccumulative potential**

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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

May cause long-term adverse effects in the aquatic environment.  
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

### SECTION 14: Transport information

#### Land transport (ADR/RID)

##### 14.1. UN number:

UN 2922

##### 14.2. UN proper shipping name:

Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)

##### 14.3. Transport hazard class(es):

8

##### 14.4. Packing group:

II

Hazard label:

8, 6.1



#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

##### 14.1. UN number:

UN 2922

##### 14.2. UN proper shipping name:

Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)/IATA\*/

##### 14.3. Transport hazard class(es):

8

##### 14.4. Packing group:

II

Hazard label:

8, 6.1



Marine pollutant:

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EmS:

F-A,S-B

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

- 14.1. UN number:** UN 2922
- 14.2. UN proper shipping name:** Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)/IATA\*/
- 14.3. Transport hazard class(es):** 8
- 14.4. Packing group:** II
- Hazard label: 8, 6.1

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: Sodium cyanide

**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). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 3 - highly 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: 27.11.2017  
Safety datasheet sections which have been updated: 2, 4, 11

Revision: 27.04.2015  
Safety datasheet sections which have been updated: 2

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

H300 Fatal if swallowed.

H301+H331 Toxic if swallowed or if inhaled.

H310 Fatal in contact with skin.

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### 21223-32 Alkaline Cyanide Reagent

Revision date: 27.11.2017

Product code: 2122332

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H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very 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.

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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.)*



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**21224-32 PAN Indicator**

Revision date: 16.11.2017

Product code: 2122432

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

21224-32 PAN Indicator

**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:

Serious eye damage/eye irritation: Eye Dam. 1

Reproductive toxicity: Repr. 1B

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Causes serious eye damage.

May damage the unborn child.

Very toxic to aquatic life with long lasting effects.

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

N,N-dimethylformamide; dimethyl formamide

Triton X-114

**Signal word:**

Danger

**Pictograms:**

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#### Hazard statements

- H318 Causes serious eye damage.  
 H360D May damage the unborn child.  
 H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

- P201 Obtain special instructions before use.  
 P273 Avoid release to the environment.  
 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.  
 P310 Immediately call a POISON CENTER/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P391 Collect spillage.

#### 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	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			50-60%
	231-791-2			
68-12-2	N,N-dimethylformamide; dimethyl formamide			20-30%
	200-679-5	616-001-00-X		
	Repr. 1B, Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H360D *** H332 H312 H319			
631-61-8	Ammonium acetate			15-25%
	211-162-9			
9036-19-5	Triton X-114			5-15%
	-			
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1 (M-Factor = 1); H302 H318 H400 H410			

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

#### Further Information

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).  
 N,N-dimethylformamide; dimethyl formamide

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

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

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#### After inhalation

Move to fresh air. Call a physician immediately.

#### After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician immediately.

#### After contact with eyes

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

#### After ingestion

Ingest immediately about 350 ml (5 ml/kg body weight) of activated charcoal slurry. Note: To prepare activated charcoal slurry, mix thoroughly 50 g of activated charcoal in 400 ml (about 2 cups) water.

Never give anything by mouth to an unconscious person.

Induce vomiting immediately and call a physician.

#### **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.

The product itself does not burn.

Water, Carbon dioxide (CO<sub>2</sub>), Alcohol-resistant foam Dry powder,

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

Fire may liberate hazardous vapours.

In the event of fire the following can be released: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

#### **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. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas.

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

Do not flush into surface water or sanitary sewer system.

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

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

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

13. Disposal considerations

### SECTION 7: Handling and storage

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

Avoid contact with skin and eyes.  
Do not breathe vapours or spray mist.

**Further information on handling**

Observe label precautions.

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

Keep away from heat and sources of ignition.  
Keep at temperatures between 10 and 25 °C.

**Hints on joint storage**

Protect against Acids, Oxidizing agents, Alkali metals

**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****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
68-12-2	N,N-Dimethylformamide	5	15		TWA (8 h)	WEL
		10	30		STEL (15 min)	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 at the end of workday.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

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.

In case of full contact:

Glove material : butyl-rubber  
Layer thickness: > 0,7 mm  
Break through time: >480 min

In case of contact through splashing:

Glove material :Viton (R)  
Layer thickness: > 0,7 mm  
Break through time: >240 min

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If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.

#### 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.

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	red
Odour:	ammoniacal
pH-Value (at 20 °C):	8

#### Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	101 °C
Sublimation point:	no data available
Softening point:	no data available
Pour point:	no data available
:	no data available
Flash point:	> 93 °C

#### Flammability

Solid:	not applicable
Gas:	not applicable

#### Explosive properties

not applicable

Lower explosion limits:	no data available
Upper explosion limits:	no data available
Ignition temperature:	no data available

#### Auto-ignition temperature

Solid:	no data available
Gas:	no data available

Decomposition temperature:	no data available
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#### Oxidizing properties

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	1,044 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility:	miscible

#### Solubility in other solvents

Acids : miscible

Partition coefficient:	no data available
Viscosity / dynamic:	no data available

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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:	no data available
no data available	

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity Hazard: Oxidizing agents, Nitric acid, Alkali 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.

#### 10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2)

### 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
68-12-2	N,N-dimethylformamide; dimethyl formamide				
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation aerosol	ATE 1,5 mg/l			
9036-19-5	Triton X-114				
	oral	LD50 1700 mg/kg	rat		

##### Irritation and corrosivity

H318 - Causes serious eye damage.

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

May cause harm to the unborn child. (N,N-dimethylformamide; dimethyl formamide)

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**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 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**

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
631-61-8	Ammonium acetate					
	Acute fish toxicity	LC50	238 mg/l	96 h		
9036-19-5	Triton X-114					
	Acute fish toxicity	LC50	4-8,9 mg/l	96 h	Pimephales promelas (fathead minnow)	
	Acute crustacea toxicity	EC50	18-26 mg/l	48 h	Daphnia magna (Water flea)	
	Fish toxicity	NOEC	0,004 mg/l	7 d	Oncorhynchus mykiss (rainbow trout)	EPA

**12.2. Persistence and degradability**

No data is available on the product itself.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
9036-19-5	Triton X-114				
	OECD Test Guideline 301 C	22%	28		

**12.3. Bioaccumulative potential**

No data is available on the product itself.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
68-12-2	N,N-dimethylformamide; dimethyl formamide	0,85

**12.4. Mobility in soil**

No data is available on the product itself.

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

No data is available on the product itself.

**12.6. Other adverse effects**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**
**13.1. Waste treatment methods**

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**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

**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 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: yes



Danger releasing substance: Triton X-114

**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**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

N,N-dimethylformamide; dimethyl formamide



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Restrictions on use (REACH, annex XVII):

Entry 30: N,N-dimethylformamide; dimethyl formamide

#### 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: 16.11.2017

Safety datasheet sections which have been updated: 2, ,3, 11, 12, 14

Revision: 12.04.2016

Safety datasheet sections which have been updated: 3

Revision: 28.05.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 27.07.2014

Safety datasheet sections which have been updated: 4-16

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

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360D	May damage the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### 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.)*