

Safety Data Sheet

according to Regulation (EC) No 1907/2006

23686-55 pPb-2 Fixer Solution

Revision date: 11.10.2017

Product code: 2368655

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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:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Reproductive toxicity: Repr. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Causes skin irritation.

Causes serious eye damage.

May damage fertility. May damage the unborn child.

May cause respiratory irritation.

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

Tris(hydroxymethyl)aminomethane

Succinic acid

Imidazole

L(+)-Tartaric acid

Signal word: Danger

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Pictograms:



Hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
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.
P310	Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P308+P313	IF exposed or concerned: 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

no data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7732-18-5	Water			50,0-60,0 %
	231-791-2			
77-86-1	Tris(hydroxymethyl)aminomethane			20,0-30,0 %
	201-064-4			
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			
7757-79-1	Potassium nitrate			1,0-10,0 %
	231-818-8			
	Ox. Sol. 3, Eye Irrit. 2; H272 H319			
110-15-6	Succinic acid			1,0-10,0 %
	203-740-4			
	Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H315 H318 H335			
288-32-4	Imidazole			1,0-10,0 %
	206-019-2			
	Repr. 1B, Acute Tox. 3, Skin Corr. 1B, STOT SE 3; H360 H301 H314 H335			
87-69-4	L(+)-Tartaric acid			1,0-5,0 %
	201-766-0			
	Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H315 H318 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 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

Irritation and corrosion

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.

Unsuitable extinguishing media

No Limit

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

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

Advice on protection against fire and explosion

See also section 5

Further information on handling

Avoid contact with skin, eyes and clothing.

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

None known.

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

Additional advice on limit values

None known.

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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.

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:	yellow
Odour:	odourless
pH-Value (at 20 °C):	8,1

Changes in the physical state

Melting point:	-12 °C
Initial boiling point and boiling range:	99 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable

Flammability

Solid:	not applicable
Gas:	no data available

Explosive properties

no data available

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

Auto-ignition temperature

Solid:	not applicable
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):

1,165 g/cm³

Bulk density:

not applicable

Water solubility:

soluble

(at 20 °C)

Solubility in other solvents

no data available

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:

no data available

no data available

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

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

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****Acute toxicity**

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
77-86-1	Tris(hydroxymethyl)aminomethane				
	oral	LD50 mg/kg	5900	rat	
7757-79-1	Potassium nitrate				
	oral	LD50 mg/kg	3015	Ratte	
110-15-6	Succinic acid				
	oral	LD50 mg/kg	2260	Ratte	
288-32-4	Imidazole				
	oral	LD50 mg/kg	220	rat	IUCLID
87-69-4	L(+)-Tartaric acid				
	oral	LD50 mg/kg	7500	rat	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. May damage the unborn child.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

STOT-single exposure

May cause respiratory irritation. (Tris(hydroxymethyl)aminomethane)

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

Tris(hydroxymethyl)aminomethane: LD50/oral/rat = 5900 mg/kg

Potassium nitrate: LD50/oral/rat = 3750 mg/kg

Succinic acid: LD50/oral/rat = 2260 mg/kg

Imidazole: LD50/oral/rat = 220 mg/kg

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 information on ecology is available.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7757-79-1	Potassium nitrate					
	Acute fish toxicity	LC50	191 mg/l	96 h	Poecilia reticulata	
	Acute crustacea toxicity	EC50	490 mg/l	48 h	Daphnia magna	
110-15-6	Succinic acid					
	Acute crustacea toxicity	EC50	374 mg/l	48 h		
288-32-4	Imidazole					
	Acute fish toxicity	LC50	284 mg/l	96 h	Leuciscus idus (Golden orfe)	
	Acute crustacea toxicity	EC50	250 mg/l	48 h	Daphnia magna (Water flea)	

12.2. Persistence and degradability

No data is available on the product itself.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
77-86-1	Tris(hydroxymethyl)aminomethane			
	OECD Test Guideline 301	89%	28	

12.3. Bioaccumulative potential

no data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
77-86-1	Tris(hydroxymethyl)aminomethane	-2,31
110-15-6	Succinic acid	-0,59

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
Disposal recommendations

In accordance with local and national regulations.

List of Wastes Code - residues/unused products

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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

List of Wastes Code - 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

List of Wastes Code - 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.

SECTION 14: Transport information

Land transport (ADR/RID)**Other applicable information (land transport)**

Not subject to transport regulations.

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

Not tested

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

Not subject to transport regulations.

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

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

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

Not relevant

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

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 30: Imidazole

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

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

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SECTION 16: Other information**Changes**

Revision: 11.10.2017

Safety datasheet sections which have been updated: 2, 3, 10, 11

Revision: 24.06.2015

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

Revision: 06.10.2014

Safety datasheet sections which have been updated: 4 - 16

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Repr. 1B; H360FD	Calculation method
STOT SE 3; H335	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
H360FD	May damage fertility. May damage the unborn child.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance 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.)