

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1878-66 Hexamethylenetetramine

Revision date: 15.04.2020

Product code: 187866

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

1878-66 Hexamethylenetetramine

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:

Flammable solid: Flam. Sol. 1

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements:

Flammable solid.

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

May cause an allergic skin reaction.

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

methenamine; hexamethylenetetramine

Signal word: Danger**Pictograms:**

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Hazard statements

H228	Flammable solid.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

Precautionary statements

P210	Keep away from heat. No Smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P240	Ground and bond container and receiving equipment.

Additional advice on labelling

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

2.3. Other hazards

no data available

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

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
100-97-0	methenamine; hexamethylenetetramine			> 99 %
	202-905-8	612-101-00-2		
	Flam. Sol. 2, Resp. Sens. 1, Skin Sens. 1; H228 H334 H317			

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.

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. Take off all contaminated clothing immediately. 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

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

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

sensitising effects

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water, Carbon dioxide (CO₂), Alcohol-resistant foam

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

Heating can release hazardous gases. (nitrogen oxides (NO_x), Formaldehyde)

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

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Advice on protection against fire and explosion

Highly flammable

Keep away from fire, sparks and heated surfaces.

Further information on handling

Observe label precautions.

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.

Keep away from fire, sparks and heated surfaces.

Hints on joint storage

Do not store together with Acids, Oxidizing agents

7.3. Specific end use(s)

Laboratory chemicals

Standard solution

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

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

Protective and hygiene measures

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

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

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

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

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:	powder
Colour:	white
Odour:	odourless

pH-Value (at 20 °C):

Changes in the physical state

Melting point:	280 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	no data available
Softening point:	no data available
Pour point:	not applicable
Sublimation point:	280 °C
Flash point:	236 °C
Sustaining combustion:	No data available

Flammability

Solid:	no data available
Gas:	no data available

Explosive properties

no data available

Lower explosion limits:	not applicable
Upper explosion limits:	20 g/m ³

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Ignition temperature: no data available

Auto-ignition temperature

Solid: 410 °C

Gas: no data available

Decomposition temperature: > 200 °C

Oxidizing properties

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,33 g/cm³

Bulk density: no data available

Water solubility: 1g / 1,5 ml Water g/L

(at 20 °C)

Solubility in other solvents

1g / 12,5ml Alcohol

1g / 320ml Ether

1g / 10 ml Chloroform

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**

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Acids, acetic acid, Nitric acid, Ammonium salts

10.4. Conditions to avoid

Heat, flames and sparks.

Stable under normal conditions. To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Acids, Oxidizing agents

10.6. Hazardous decomposition productsHeating can release hazardous gases. (nitrogen oxides (NO_x), Formaldehyde)**SECTION 11: Toxicological information**

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11.1. Information on toxicological effects

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
100-97-0	methenamine; hexamethylenetetramine				
	oral	LD50 mg/kg	9200	Ratte	

Irritation and corrosivity

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

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (methenamine; hexamethylenetetramine)

May cause an allergic skin reaction. (methenamine; hexamethylenetetramine)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

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.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
100-97-0	methenamine; hexamethylenetetramine					
	Acute fish toxicity	LC50 mg/l	49800	96 h	Fisch	

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 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

No known effect.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods**Disposal recommendations**

In accordance with local and national regulations.

List of Wastes Code - 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

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

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

14.1. UN number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1



Classification code:	F1
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	40
Tunnel restriction code:	E

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

Not tested

Marine transport (IMDG)

14.1. UN number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1



Marine pollutant:	--
Special Provisions:	-
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-G

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE

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14.3. Transport hazard class(es): 4.1

14.4. Packing group: III

Hazard label: 4.1



Special Provisions: A803

Limited quantity Passenger: 10 kg

Passenger LQ: Y443

Excepted quantity: E1

IATA-packing instructions - Passenger: 446

IATA-max. quantity - Passenger: 25 kg

IATA-packing instructions - Cargo: 449

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

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

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Revision: 28.05.2019

Safety datasheet sections which have been updated: 2, 4, 8, 10, 11, 14, 15

Revision: 22.04.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 12.09.2013

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

Classification	Classification procedure
Flam. Sol. 1; H228	On basis of test data
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

H228 Flammable solid.

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H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

Training advice

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

(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

23801-23 ECR Masking Reagent Solution

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

Use of the substance/mixture

Water analysis

1.3. Details of the supplier of the safety data sheet

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

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

1.4. Emergency telephone number:

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Serious eye damage/eye irritation: Eye Dam. 1

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

Harmful if swallowed.

Harmful in contact with skin.

Causes serious eye damage.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

ammonium fluoride

Signal word: Danger

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Pictograms:

Hazard statements

- H302+H312 Harmful if swallowed or in contact with skin.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 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 soap and water.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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	
	GHS Classification			
7732-18-5	Water			60-70 %
	231-791-2			
3012-65-5	di-Ammonium hydrogen citrate			15-20 %
	221-146-3			
	Eye Irrit. 2, STOT SE 3; H319 H335			
12125-01-8	ammonium fluoride			10-20 %
	235-185-9	009-006-00-8		
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1, STOT SE 3, STOT RE 2, Aquatic Chronic 3; H331 H311 H301 H318 H335 H373 H412			

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

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

Take off all contaminated clothing immediately.

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After inhalation

Move to fresh air.

After contact with skin

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

After contact with eyes

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

After ingestion

Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person.

Consult 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.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours. (Ammonia, nitrogen oxides (NOx))

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.

Further information on handling

Avoid contact with skin and eyes.

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. Protect against light.

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Hints on joint storage

Do not store together with Strong acids and oxidizing agents

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 ³	fibres/ml	Category	Origin
16984-48-8	Fluoride (inorganic as F)	-	2.5		TWA (8 h)	WEL

8.2. Exposure controls**Appropriate engineering controls**

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

Protective and hygiene measures

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

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 2016/425/EC and the resultant standard DIN EN ISO 374-1.

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

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

Physical state:	clear
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	5,4

Changes in the physical state

Melting point:	-24 °C
Initial boiling point and boiling range:	99 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Flash point:	not applicable
Sustaining combustion:	No data available

Flammability

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Solid: not applicable

Gas: not applicable

Explosive properties

not applicable

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: not applicable

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not applicable

Oxidizing properties

not applicable

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,147 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: 0,63

(at 20 °C)

Solvent separation test: no data available

Solvent content: no data available

9.2. Other information

Solid content: not applicable

no data available

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

None known.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

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10.5. Incompatible materials

Incompatible materials: Oxidizing agents, Acids

10.6. Hazardous decomposition products

No decomposition if used as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed.
 Harmful in contact with skin.
 Harmful in contact with skin and if swallowed.

ATEmix calculated

ATE (oral) 766,7 mg/kg; ATE (inhalation aerosol) 3,833 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
12125-01-8	ammonium fluoride				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation aerosol	ATE 0,5 mg/l			

Irritation and corrosivity

Causes serious eye damage.
 Skin corrosion/irritation: Based on available data, the classification criteria are not met.
 H318 - Causes serious eye damage.

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

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (ammonium fluoride)
 H373 - May cause damage to organs through prolonged or 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.

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. Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
12125-01-8	ammonium fluoride					
	Acute fish toxicity	LC50	364 mg/l	96 h	Pimephales promelas	
	Acute crustacea toxicity	EC50	66 mg/l	48 h		

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.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
12125-01-8	ammonium fluoride	-4,37

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.

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

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

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)

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Other applicable information (marine transport)

Not subject to transport regulations.

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

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

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

Not relevant

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

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

Revision: 11.09.2017

Safety datasheet sections which have been updated: 3, 11

Revision: 21.08.2017

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

Revision: 22.03.2016

Safety datasheet sections which have been updated: 2.2

Revision: 27.05.2015

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

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H302+H312	Harmful if swallowed or in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

(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: 2380268

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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**

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

None known.

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	
7783-20-2	Ammonium sulfate	85-95 %
	231-984-1	
70-49-5	Mercaptosuccinic acid	1,0 - 10,0 %
	200-736-4	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H302 H315 H319 H335	
88-14-2	2-Furancarboxylic acid	1,0 - 5,0 %
	201-803-0	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 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.

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

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

After ingestion

Drink 1 or 2 glasses of water.

Consult a physician.

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 mixtureFire may liberate hazardous vapours. (Ammonia, nitrogen oxides (NO_x))**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.

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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. Dispose of as hazardous waste in compliance with local and national regulations.

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.

Advice on protection against fire and explosion

None known.

See also section 5

Further information on handling

Avoid contact with skin and eyes.

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. Protect against light.

Hints on joint storage

Do not store together with Oxidizing agents

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

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

Handle in accordance with good industrial hygiene and safety practice.

Protective and hygiene measures

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

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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 2016/425/EC and the resultant standard DIN EN ISO 374-1.

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Ensure adequate ventilation. Avoid breathing dust or vapour.

Breathing apparatus only if aerosol or dust is formed. Recommended Filter type: ABEK-filter

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

Prevent further leakage or spillage if safe to do so.

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

Physical state:	powder
Colour:	orange
Odour:	odourless
pH-Value (at 20 °C):	2,78 (5 % solution)
Changes in the physical state	
Melting point:	133 °C
Initial boiling point and boiling range:	no data available
Sublimation point:	no data available
Softening point:	no data available
:	no data available
Flash point:	no data available
Flammability	
Solid:	no data available
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:	no data available
Gas:	no data available
Decomposition temperature:	no data available
Oxidizing properties	
no data available	
Vapour pressure:	no data available
Vapour pressure:	no data available

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Density (at 20 °C):	1,734 g/cm ³
Bulk density:	no data available
Water solubility: (at 20 °C)	soluble
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: (at 20 °C)	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

Stable under recommended storage conditions.

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

Oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if used as directed.

Further information

This information is not available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

Health injuries are not known or expected under normal use.

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CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
7783-20-2	Ammonium sulfate					
	oral	LD50 mg/kg	2840	rat	Gestis	
70-49-5	Mercaptosuccinic acid					
	oral	LD50 mg/kg	800	rat		
88-14-2	2-Furancarboxylic acid					
	oral	LD50 mg/kg	1000	mouse		

Irritation and corrosivity

No known effect.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

STOT-repeated exposure

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.

Additional information on tests

None known.

Practical experience
Observations relevant to classification

May cause allergic skin reaction. May cause allergic respiratory reaction.

Other observations

None known.

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. Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
7783-20-2	Ammonium sulfate						
	Acute fish toxicity	LC50	420 mg/l	96 h	Danio rerio (zebra fish)	IUCLID	
	Acute crustacea toxicity	EC50	129 mg/l	48 h	Daphnia magna (Water flea)	IUCLID	

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12.2. Persistence and degradability

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.3. Bioaccumulative potential

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

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

Ecological injuries are not known or expected under normal use.

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

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

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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****National regulatory information**

Water hazard class (D): 3 - strongly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

Revision: 04.05.2018

Safety datasheet sections which have been updated: 4, 8, 11, 13

Revision: 29.01.2015

Safety datasheet sections which have been updated: 2

Revision: 12.03.2013

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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