

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 1 of 10

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

##### 1.1. Product identifier

2168042 DEHA 2 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.  
Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487  
e-Mail: info@hach-lange.co.uk

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

##### 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

Hazard categories:  
Substance or mixture corrosive to metals: Met. Corr. 1  
Skin corrosion/irritation: Skin Corr. 1B  
Serious eye damage/eye irritation: Eye Dam. 1  
Hazard Statements:  
May be corrosive to metals.  
Causes severe skin burns and eye damage.

##### 2.2. Label elements

###### Hazardous components which must be listed on the label

Nitric acid ... %

Signal word:

Danger

Pictograms:



###### Hazard statements

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 2 of 10

#### Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310	Immediately call a POISON CENTER/doctor.

#### Additional advice on labelling

Classification according to European directive on classification of hazardous preparations 1999/45/EC.  
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			85-95 %
	231-791-2			
7697-37-2	Nitric acid ... %			5-15 %
	231-714-2	007-004-00-1		
	Ox. Liq. 3, Skin Corr. 1A; H272 H314			
7782-61-8	Iron(III) nitrate nonahydrate			1-5 %
	233-899-5			
	Ox. Sol. 3, Skin Irrit. 2, Eye Irrit. 2; H272 H315 H319			

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

Consult a physician. Show this safety data sheet to the doctor in attendance.  
First aider needs to protect himself.

##### 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.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Show this safety data sheet to the doctor in attendance.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 3 of 10

#### 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. Do NOT induce vomiting.

Consult a physician.

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

Irritation and corrosion, Cough, Shortness of breath, Spasm, Nausea, Vomiting

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

Treat symptomatically.

### SECTION 5: Firefighting measures

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

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

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

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

No Limit

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

Gives off hydrogen by reaction with metals. Contact with combustible material may cause fire. Fire may liberate hazardous vapours. (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. Suppress (knock down) gases/vapours/mists with a water spray jet.

#### **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.

For personal protection see section 8.

#### **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. Do not breathe vapours/dust.

Wash thoroughly after handling.

General industrial hygiene practice.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 4 of 10

#### Advice on protection against fire and explosion

None known.

See also section 5

#### 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. Protect against light.

Store in original container. Do not use containers made of Light metals, Metals

##### Further information on storage conditions

Keep away from combustible materials.

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

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7697-37-2	Nitric acid	-	-		TWA (8 h)	WEL
		1	2.6		STEL (15 min)	WEL

##### Additional advice on limit values

None known.

#### 8.2. Exposure controls

##### Appropriate engineering controls

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

##### Protective and hygiene measures

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

Wash hands before breaks and after work.

General industrial hygiene practice.

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

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

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 : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: >480 min

In case of contact through splashing:

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 5 of 10

Glove material : Nitrile rubber  
Layer thickness: 0,11 mm  
Break through time: >480 min

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

Remove and wash contaminated clothing before re-use.

#### Respiratory protection

Breathing apparatus only if aerosol or dust is formed.  
Recommended Filter type: E-(P2)

#### 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:	liquid
Colour:	colourless
Odour:	odourless

pH-Value (at 20 °C):	<0,5	<b>Test method</b>
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#### Changes in the physical state

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

#### 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
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#### Oxidizing properties

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 6 of 10

Density (at 20 °C):	1,062 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility:	soluble
<b>Solubility in other solvents</b>	
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

Corrosive to metals  
Aluminium: 1325,9 mm/a  
Mild steel: 3,048 mm/a

### SECTION 10: Stability and reactivity

#### **10.1. Reactivity**

Corrosive to metals  
Reactivity Hazard: Oxidizing agents

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

Stable under recommended storage conditions.

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

Reacts with the following substances:  
Alkali metals, Metals, Alkaline earth metals, metal oxides, Alcohols, Ammonia, Bases, Halogenated compounds, Peroxides, organic solvent

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

Decomposes on heating.

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

Organic materials, Reducing agents, Metals  
Contact with metals liberates hydrogen gas.

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

nitrogen oxides (NO<sub>x</sub>)  
See also section 5

### 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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 7 of 10

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
7782-61-8	Iron(III) nitrate nonahydrate				
	oral	LD50	3250 mg/kg	rat	

#### Irritation and corrosivity

Causes skin and eye burns.

#### 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.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h]   [d]	Species	Source
7697-37-2	Nitric acid ... %					
	Acute fish toxicity	LC50	72 mg/l	96 h	Gambusia affinis	IUCLID

### 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
7697-37-2	Nitric acid ... %	-0,21

### 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 data is available on the product itself.

## 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 dangerous substances, including mixtures of laboratory chemicals  
Classified as hazardous waste.

#### Waste disposal number of used product

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 8 of 10

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

**14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(<15% Nitric acid/<5% ferric nitrate solution)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** I  
Hazard label: 8



Classification code: C1  
Special Provisions: 274  
Limited quantity: 0  
Transport category: 1  
Hazard No: 88  
Tunnel restriction code: E

#### Other applicable information (land transport)

Excepted Quantities: E0

### Inland waterways transport (ADN)

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

Not tested

### Marine transport (IMDG)

**14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(<15% Nitric acid/<5% ferric nitrate solution)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** I  
Hazard label: 8



Special Provisions: 274  
Limited quantity: 0  
EmS: F-A, S-B

#### Other applicable information (marine transport)

Excepted Quantities: E0

### Air transport (ICAO)



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 9 of 10

<b>14.1. UN number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (<15% Nitric acid/<5% ferric nitrate solution)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	I
Hazard label:	8



Special Provisions:	A3 A803
Limited quantity Passenger:	Forbidden
IATA-packing instructions - Passenger:	850
IATA-max. quantity - Passenger:	0.5 L
IATA-packing instructions - Cargo:	854
IATA-max. quantity - Cargo:	2.5 L

#### Other applicable information (air transport)

Passenger-LQ: Forbidden  
Excepted Quantities: E0

#### 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 MARPOL73/78 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 contaminating class (D): 2 - 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: 04.05.2015  
Safety datasheet sections which have been updated: 2, 11  
Revision: 24.04.2014  
Safety datasheet sections which have been updated: 4-16

#### Relevant H- and EUH-phrases (Number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2168042 DEHA 2 Reagent

Print date: 20.07.2015

Product code: 2168042

Page 10 of 10

H319 Causes serious eye irritation.

#### Further Information

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

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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.)*