

Safety Data Sheet

according to Regulation (EC) No 1907/2006

23937-01 Mercuric Nitrate Cartridge, 2.570 N

Revision date: 28.04.2017

Product code: 2393701

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

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

Water analysis

1.3. Details of the supplier of the safety data sheet

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

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

1.4. Emergency telephone number:

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

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

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Acute toxicity: Acute Tox. 1

Acute toxicity: Acute Tox. 2

Skin corrosion/irritation: Skin Corr. 1

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

May be corrosive to metals.

Fatal if swallowed.

Fatal in contact with skin.

Causes severe skin burns and eye damage.

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

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

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

Mercury(II) nitrate

Nitric acid 10-20 %

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Signal word: Danger**Pictograms:****Hazard statements**

H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P270	Do not eat, drink or smoke when using this product.
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.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P310	Immediately call a POISON CENTER/doctor.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P501	Dispose of contents/container to ,.

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	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			50-60 %
	231-791-2			
7783-34-8	Mercury(II) nitrate			20-30 %
	233-152-3	080-002-00-6		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, STOT RE 2, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H310 H330 H300 H373 H400 H410			
7697-37-2	Nitric acid ... %			10-20 %
	231-714-2	007-004-00-1		
	Ox. Liq. 2, Skin Corr. 1A; H272 H314 EUH071			

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.
Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air. Consult a physician.

After contact with skin

Wash off immediately with soap and plenty of water. Take off all contaminated clothing 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

Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

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

Causes headache, drowsiness or other effects to the central nervous system.
irritant effects, Dizziness, Nausea, Vomiting, Irregular cardiac activity.
Causes severe burns.
Risk of serious damage to eyes. May cause blindness.
May be fatal if inhaled.
May be fatal if absorbed through skin.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No Limit

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5.2. Special hazards arising from the substance or mixture

Oxidizing agents (strong)- Contact with combustible material may cause fire.
Fire may liberate hazardous vapours.
Fire may cause evolution of: Carbon dioxide (CO₂), Carbon monoxide, Mercury

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. Ensure adequate ventilation.

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).
Clean contaminated surface thoroughly.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes.
Use only in well-ventilated areas. Do not breathe vapours/dust.
Avoid formation of dust and aerosols.

Advice on protection against fire and explosion

Keep away from combustible material.

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.

Hints on joint storage

Do not store together with Oxidizing agents.
Do not store together with Bases.

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

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7697-37-2	Nitric acid	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.

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.

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

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:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: 60 min

Skin protection

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

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

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:	liquid
Colour:	colourless, light yellow
Odour:	odourless
pH-Value (at 20 °C):	0,6

Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	no data available

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Sublimation point:	no data available
Softening point:	not applicable
Pour point:	no data available
:	no data available
Flash point:	no data available
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:	not applicable
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
Density (at 20 °C):	1,034 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:	no data available
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**

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

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10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents

10.4. Conditions to avoidHeat, flames and sparks.
Extremes of temperature and direct sunlight.**10.5. Incompatible materials**Alcohols
Bases
Oxidizing agents**10.6. Hazardous decomposition products**Heating can release hazardous gases. (Mercury, Carbon dioxide (CO₂), Carbon monoxide, nitrogen oxides (NO_x))**Further information**

This information is not available.

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

Corrosive to metals.

Acute toxicity

May be fatal if absorbed through skin or swallowed.

ATEmix calculated

ATE (oral) 97,0 mg/kg; ATE (dermal) 279,9 mg/kg; ATE (inhalation vapour) 1,87 mg/l; ATE (inhalation aerosol) 0,187 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7783-34-8	Mercury(II) nitrate				
	oral	LD50 26 mg/kg	rat		
	dermal	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation aerosol	ATE 0,05 mg/l			

Irritation and corrosivityCauses skin and eye burns.
Risk of serious damage to eyes.**Sensitising effects**

No data is available on the product itself.

Carcinogenic/mutagenic/toxic effects for reproduction

No data is available on the product itself.

STOT-single exposure

No data is available on the product itself.

STOT-repeated exposure

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animalMercury(II) nitrate:
LD50/dermal/rat = 45 mg/kg

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LD50/oral/rat = 26 mg/kg

Additional information on tests

No toxicology information is available.

Practical experience
Observations relevant to classification

No data is available on the product itself.

Other observations

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

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7783-34-8	Mercury(II) nitrate					
	Acute fish toxicity	LC50 mg/l	0,172	96 h	Pimephales promelas (fathead minnow)	
	Acute crustacea toxicity	EC50 mg/l	0,0049	48 h		
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 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

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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

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

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.
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Classification code: C1
Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 80
Tunnel restriction code: E

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

Not tested

Marine transport (IMDG)

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



Marine pollutant: P
Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-A, S-B
Segregation group: acids

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Air transport (ICAO-TI/IATA-DGR)

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



Special Provisions:	A3 A803
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

Danger releasing substance: Mercury(II) nitrate
Nitric acid 10-20 %**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**

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: 28.04.2017

Safety datasheet sections which have been updated: 9, 14

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Revision: 19.11.2015

Safety datasheet sections which have been updated: 1-16

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

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.)