

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 1 of 11

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

921-01 Mercuric Nitrate Cartridge, 2.256N

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

Flammable gas: Flam. Gas 2

Acute toxicity: Acute Tox. 1

Acute toxicity: Acute Tox. 2

Acute toxicity: Acute Tox. 3

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

Reproductive toxicity: Repr. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

May be corrosive to metals.

Flammable gas.

Fatal in contact with skin.

Fatal if inhaled.

Toxic if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

Suspected of damaging fertility or the unborn child.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 2 of 11

May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Mercury(II) nitrate
Nitric acid ... %

Signal word: Danger

Pictograms:



Hazard statements

H290 May be corrosive to metals.
H310+H330 Fatal in contact with skin or if inhaled.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P262 Do not get in eyes, on skin, or on clothing.
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.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Additional advice on labelling

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

2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 3 of 11

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			70-80 %
	231-791-2			
7783-34-8	Mercury(II) nitrate			15-25 %
	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 ... %			1-10 %
	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. Show this safety data sheet to the doctor in attendance.

After contact with eyes

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

After ingestion

Induce vomiting, but only if victim is fully conscious. Call a physician immediately. Show this safety data sheet to the doctor in attendance.

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

Irritation and corrosion, Shortness of breath, Spasm.

Nausea, Vomiting, Diarrhoea

Target Organs: Liver, Kidney

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. Dry powder, Carbon dioxide (CO₂), Alcohol-resistant foam

Unsuitable extinguishing media

No Limit

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 4 of 11

Fire may cause evolution of: Carbon dioxide (CO₂), Carbon monoxide, Mercury

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.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

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.

Ensure adequate ventilation. Remove all sources of ignition.

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).

Soak up with inert absorbent material.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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

Keep away from combustible material.

Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

Avoid contact with 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.

Hints on joint storage

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

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 5 of 11

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****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.

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

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.

Use only in area provided with appropriate exhaust ventilation.

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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Skin protection

Avoid contact with skin, eyes and clothing.

Avoid contact with skin and eyes.

Avoid contact with eyes.

Wash thoroughly after handling.

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 6 of 11

Melting point:	not applicable
Initial boiling point and boiling range:	no data available
Sublimation point:	not applicable
Softening point:	no data available
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:	not applicable
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:	no data available
no data available	

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

Reactivity Hazard: Oxidizing agents

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 7 of 11

10.2. Chemical stability

Sensitivity to light, Thermal sensitivity

10.3. Possibility of hazardous reactions

Reacts with the following substances:

Alcohols

Bases

Oxidizing agents

10.4. Conditions to avoid

Heat, flames and sparks.

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

woven fabric, Organic materials,

10.6. Hazardous decomposition products

Heating can release hazardous gases. (Mercury, Carbon dioxide (CO₂), Carbon monoxide, nitrogen oxides (NO_x))

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

H310 + H330 - Fatal in contact with skin or if inhaled.

Toxic if swallowed.

ATEmix calculated

ATE (oral) 146,9 mg/kg; ATE (dermal) 28,2 mg/kg; ATE (inhalation vapour) 2,82 mg/l; ATE (inhalation aerosol) 0,282 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 corrosivity

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

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

H361 - Suspected of damaging fertility or the unborn child.

STOT-single exposure

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

STOT-repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

Mercury(II) nitrate:

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 8 of 11

LD50/dermal/rat = 45 mg/kg

LD50/oral/rat = 26 mg/kg

Additional information on tests

No toxicology information is available.

Further information

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

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

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 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 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 9 of 11

Waste disposal number of contaminated packaging

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



Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 2922
14.2. UN proper shipping name: Corrosive liquid, toxic, n.o.s. (nitric acid < 20 % / Mercury(II) nitrate, solution)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8+6.1




Classification code: CT1
Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 86
Tunnel restriction code: E

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

14.1. UN number: UN 2922
14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (< 20% Nitric acid/ Mercury nitrate-solution)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8+6.1


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

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2922
14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (< 20% Nitric acid/ Mercury nitrate-solution)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 10 of 11

14.3. Transport hazard class(es):

8

14.4. Packing group:

II

Hazard label:

8+6.1



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

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

Not relevant

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 Date 5.09.2017

Safety datasheet sections which have been updated: 2, 4, 7, 11

Revision Date 27.04.2017

Safety datasheet sections which have been updated: 2, 7, 9

Revision: 26.05.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 26.11.2013

Safety Data Sheet

according to Regulation (EC) No 1907/2006

921-01 Mercuric Nitrate Cartridge, 2.256N

Revision date: 05.09.2017

Product code: 92101

Page 11 of 11

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

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Flam. Gas 2; H221	
Acute Tox. 1; H310	Calculation method
Acute Tox. 2; H330	Calculation method
Acute Tox. 3; H301	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Repr. 2; H361	
STOT RE 2; H373	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H310+H330	Fatal in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H361	Suspected of damaging fertility or the unborn child.
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.)