Safety data sheet
according to Regulation (EC) No. 1907/2006

Printing date 26.08.2013 Version number 1 Revision: 26.08.2013

1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Mercuric nitrate monohydrate ≥ 98%, p.a., ACS

Article number: 6595

CAS Number:
7783-34-8
EC number:
233-886-4

Index number:
080-002-00-6

Registration number
A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the preparation
Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Carl Roth GmbH + Co.KG
Schoemperlenstraße 3-5
76185 Karlsruhe
Germany
Telefon: +49/(0)721 5606-0 Telefax: +49/(0)721 5606-149 e-mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment

1.4 Emergency telephone number:
Poison Centre Munich Telefon +49/(0)89 19240

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute Tox. 2	H300	Fatal if swallowed.
Acute Tox. 1	H310	Fatal in contact with skin.
Acute Tox. 2	H330	Fatal if inhaled.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
T+; Very toxic
R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
N; Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R33: Danger of cumulative effects.

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2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS06 GHS08 GHS09

Signal word Danger

Hazard statements
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
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 or doctor/physician.
P405 Store locked up.

Additional information:
-

2.3 Other hazards
All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

3.1 Chemical characterization: Substances

CAS No. Description
7783-34-8 Mercury(II) nitrate monohydrate

Identification number(s)
EC number: 233-886-4
Index Number: 080-002-00-6
Formula: $Hg\ N_2\ O_6 * H_2\ O$
Molar mass [g/mol]: 342,61

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4 First aid measures

4.1 Description of first aid measures

General information:
Immediately remove any clothing soiled by the product.
Remove breathing equipment only after contaminated clothing have been completely removed.

After inhalation:
Supply fresh air and to be sure call for a doctor.

After skin contact:
Immediately rinse with water.
Seek immediate medical advice.

After eye contact:
Rinse opened eye for 10 minutes under running water. Then consult a doctor.

After swallowing:
Rinse out mouth and drink a glass of water. Do not induce vomiting.
Call for a doctor immediately and show the container or label.

4.2 Most important symptoms and effects, both acute and delayed
After absorption of large quantities:
Methaemoglobinaemia
After contact with the eyes
Eye damage
After swallowing:
irritations in the mouth, throat, oesophagus, gastrointestinal tract.
Nausea
Vomiting
bloody diarrhoea
Gastric or intestinal disorders
Blood pressure drop
cardiac arrhythmia
Circulatory collapse
renal failure

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
Use fire extinguishing methods suitable to surrounding conditions.
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents:
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

In the event of fire development of hazardous combustion gases or vapours possible.

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In case of fire, the following can be released:
Mercury vapours.
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
Wear fully protective suit.
Additional information
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Prevent fire-fighting water from entering surface water or groundwater.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
Do not breathe dust.
Avoid contact with the eyes and skin.

6.2 Environmental precautions
Do not allow to enter sewers/ground water or penetrate the soil.
Keep contaminated washing water and dispose of appropriately.

6.3 Methods and material for containment and cleaning up
Pick up mechanically.
Dispose of the material collected according to regulations.
Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

7.1 Precautions for safe handling
Work only in fume cupboard.
Handle and open container with care.
Prevent formation of dust.
Any unavoidabledeposit of dust must be regularly removed.
Keep containers, equipment and working place clean.

Information about fire - and explosion protection:
Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:
Store only in the original receptacle.

Information about storage in one common storage facility:
Store away from foodstuffs.

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Further information about storage conditions:
Keep container tightly sealed.
Store in the dark.
Protect from exposure to the light.

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)
No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical facilities:
No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

Ingredients with biological limit values:	
7783-34-8 Mercury(II) nitrate monohydrate	
BMGV (Great Britain)	20 µmol/mol creatinine Medium: urine Sampling time: random Parameter: mercury

Additional information:
The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Do not breathe dust.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Composite filter: Hg-P3 (colour code: red-white)

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Protection of hands:

Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
Nitrile, thickness: ≥ 0.11 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material
Value for the permeation: Level ≥ 6
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, thickness: ≥ 0.11 mm
Value for the permeation: Level ≥ 6

Eye protection:

Tightly sealed goggles

Body protection:
Protective work clothing

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Appearance:	
Form:	Solid material
Colour:	Whitish
Odour:	like nitric acid
Odour threshold:	No information available.
pH-value (10 g/l) at 20 °C:	3
Change in condition	
Melting point/Melting range:	79 °C (Anhydr.)
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Product is not flammable.
Ignition temperature:	No information available
Decomposition temperature:	No information available

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Self-igniting:	No information available
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	No information available.
Upper:	No information available.
Oxidizing properties:	No information available.
Vapour pressure:	Not applicable.
Density at 20 °C:	4.39 g/cm³
Bulk density at 20 °C:	~ 1200 kg/m³
Relative density	No Information available.
Vapour density	No information available
Evaporation rate	No information available
Solubility in / Miscibility with water:	Soluble.
Partition coefficient (n-octanol/water):	No information available
Viscosity:	
Dynamic:	No information available.
Kinematic:	No information available.
9.2 Other information	No further relevant information available.

10 Stability and reactivity

10.1 Reactivity
See section 10.3

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
Danger of explosion with:
Ammonia
conc. sulfuric acid
phosphorus
Sulfur
Acetylene
Cyanides
ethanol
Exothermic reaction with:
Aldehydes
aromatic hydrocarbons
unsaturated hydrocarbons
organic nitro compounds
ketones
Strong reaction possible with:
strong reducing agents

10.4 Conditions to avoid
Strong Heating. (decomposition)

10.5 Incompatible materials:
No information available.

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10.6 Hazardous decomposition products:
In case of fire: see item 5.

11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

Oral	LD50	26 mg/kg (rat) (Anhydr., RTECS)
Dermal	LD50	75 mg/kg (rat) (Anhydr., RTECS)

Specific symptoms in biological assay:
No information available.

Primary irritant effect:

on the skin:
No information available.

on the eye:
No information available.

after inhalation:
No information available.

Sensitization:
No sensitizing effects known.

CMR effects:
Germ cell mutagenicity:
No information available.
Carcinogenicity:
IARC: group 3
Reproductive toxicity:
No information available.

Aspiration hazard:
No aspiration toxicity classification.

Specific target organ toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Additional toxicological information:
After Exposure:
Burns in the mouth
Burns in the throat
mucosal irritations
Spasms
Damage of lungs.
Pulmonary oedema
Dyspnoea
Nausea
Vomoting
Headache
Further information:
The product should be handled with the care usual when dealing with chemicals.

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12 Ecological information

12.1 Toxicity

Aquatic toxicity:

Fish toxicity:	
LC50	0.17 mg/l/96 h (Pimephales promelas) (Anhyrd., ECOTOX)

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

Ecotoxical effects:

Remark:
Do not allow to enter waters, waste water, or soil!
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

12.6 Other adverse effects
No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation
This material and its container must be disposed of as hazardous waste.
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:

Recommendation:
Disposal according to official regulations.
Recommended cleansing agents: Water, if necessary together with cleansing agents.

14 Transport information

14.1 UN-Number

ADR, IMDG, IATA	UN1625

14.2 UN proper shipping name

ADR	1625 MERCURIC NITRATE, ENVIRONMENTALLY HAZARDOUS
IMDG	MERCURIC NITRATE, MARINE POLLUTANT
IATA	MERCURIC NITRATE

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14.3 Transport hazard class(es)

ADR, IMDG

Class	6.1 Toxic substances.
Label	6.1

IATA

Class	6.1 Toxic substances.
Label	6.1

14.4 Packing group

ADR, IMDG, IATA	II

14.5 Environmental hazards:

Environmentally hazardous substance, solid; Marine Pollutant

Marine pollutant:	Yes (P) Yes (PP) Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree)

14.6 Special precautions for user

Warning: Toxic substances.

Danger code (Kemler):	60
EMS Number:	F-A,S-A
Segregation groups	Heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)	500 g
Transport category	2
Tunnel restriction code	D/E

UN "Model Regulation": UN1625, MERCURIC NITRATE, ENVIRONMENTALLY HAZARDOUS, 6.1, II

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15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations:

Information about limitation of use:
In dealing with chemicals the national laws must be observed.
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

Breakdown regulations:
-

Class	Share in %
I	100.0

Waterhazard class:
Water hazard class 3 (Self-assessment): extremely hazardous for water.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS: Department: Health, Safety and Environment

Contact: Herr Dr. Hagel
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
PP: Severe Marine Pollutant
P: Marine Pollutant
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
LD50*: Lethal Dose, 50 percent (Not relevant for classification)
LD50*: Lethal Concentration, 50 percent (Not relevant for classification)