

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

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

- 1.1. Product identifier**
- Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)
mixture
Q9J5-T1GE-M00U-FTHX
- Substance / mixture
UFI
Other mixture names
Mercury(II) nitrate hydrate ready to use volumetric solution 0,05mol/l (N/10)
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
- Mixture's intended use**
Chemical production, analytical chemistry, laboratory synthesis, industrial applications.
- Mixture uses advised against**
The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**
- Supplier**
- | | |
|-----------------------------|---|
| Name or trade name | Ing. Petr Švec - PENTA s.r.o. |
| Address | Radiová 1122/1, Praha 10, 102 00
Czech Republic
02096013
CZ02096013
+420 226 060 681
info@pentachemicals.eu
www.pentachemicals.eu |
| Identification number (CRN) | |
| VAT Reg No | |
| Phone | |
| E-mail | |
| Web address | |
- Competent person responsible for the safety data sheet**
- | | |
|--------|-------------------------------|
| Name | Ing. Petr Švec - PENTA s.r.o. |
| E-mail | info@pentachemicals.eu |
- 1.4. Emergency telephone number**
- European emergency number: 112

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
- Classification of the mixture in accordance with Regulation (EC) No 1272/2008**
- The mixture is classified as dangerous.

Acute Tox. 4, H302
Acute Tox. 3, H311
Skin Irrit. 2, H315
Eye Dam. 1, H318
Acute Tox. 2, H330
STOT RE 2, H373
Aquatic Chronic 3, H412

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse effects on human health and the environment

Harmful if swallowed. Toxic in contact with skin. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date 05th September 2019
Revision date 02nd December 2022 Version 2.0

2.2. Label elements

Hazard pictogram



Signal word

Danger

Hazardous substances

nitric acid ... %
Mercury(II) nitrate hydrate

Hazard statements

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P280 Wear eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water and soap.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Supplemental information

EUH071 Corrosive to the respiratory tract.
Restricted to professional users.

2.3. Other hazards

Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of substances and additives specified below.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 007-004-00-1 CAS: 7697-37-2 EC: 231-714-2 Registration number: 01-2119487297-23-0039	nitric acid ... %	<4	Ox. Liq. 2, H272 Skin Corr. 1A, H314 Acute Tox. 1, H330 EUH071 Specific concentration limit: Ox. Liq. 2, H272: C ≥ 99 % Ox. Liq. 3, H272: 70 % ≤ C < 99 %	1, 2

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 080-002-00-6 CAS: 7783-34-8 EC: 233-152-3	Mercury(II) nitrate hydrate	<2	Acute Tox. 2, H300+H330 Acute Tox. 1, H310 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	

Notes

- Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
- Substance with a Union workplace exposure limit.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

INDUCE VOMITING! Vomiting should be induced in the person only if conscious, within 1 hour from ingestion. If in doubt whether vomiting should be induced, contact the Toxicological Information Centre and give information about the substances or composition of the product as provided on the original packaging or in the safety data sheet of the product. FOLLOWING INGESTION OF TOXIC OR HIGHLY TOXIC SUBSTANCES, GIVE 10-20 CRUSHED TABLETS OF ACTIVATED CARBON, MIXED IN WATER, WITHIN NO LATER THAN 5 MINUTES - irrespective of whether vomiting could be induced. Call medical rescue service.

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

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

If inhaled

Cough, headache.

If on skin

not available

If in eyes

Not expected.

If swallowed

Irritation, nausea.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale aerosols. Prevent contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up.

7.3. Specific end use(s)

not available

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union

Commission Directive 2006/15/EC

Substance name (component)	Type	Value
nitric acid ... % (CAS: 7697-37-2)	OEL 15 minutes	2,6 mg/m ³
	OEL 15 minutes	1 ppm

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Contaminated skin should be washed thoroughly. Hand protection: Protective gloves resistant to the product (nitrile rubber).

Respiratory protection

Respirator. Mask with dust filter.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	data not available
Odour	data not available
Melting point/freezing point	79 °C (dusičnan rtuťnatý hydrát)
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Solubility in water	data not available
Solubility in fats	data not available
Partition coefficient n-octanol/water (log value)	-0,51 (bezvodý dusičnan rtuťnatý)
Vapour pressure	data not available
Density and/or relative density	
Density	4,39 g/cm ³ at 20 °C (dusičnan rtuťnatý hydrát)

9.2. Other information

Evaporation rate	data not available
------------------	--------------------

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the mixture.

Acute toxicity

Harmful if swallowed. Toxic in contact with skin.

Mercury(II) nitrate hydrate

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD50	26 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD50	75 mg/kg		Rabbit	

Skin corrosion/irritation

Based on available data the classification criteria are not met.

Serious eye damage/irritation

Based on available data the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. Based on available data the classification criteria are not met.

11.2. Information on other hazards

not available

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date 05th September 2019

Revision date 02nd December 2022

Version

2.0

SECTION 12: Ecological information**12.1. Toxicity****Acute toxicity**

Harmful to aquatic life with long lasting effects.

Mercury(II) nitrate hydrate

Parameter	Value	Exposure time	Species	Environment
LC50	0.17 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
EC50	0.005-3.6 mg/l		Daphnia (Daphnia magna)	

12.2. Persistence and degradability

Data not available.

12.3. Bioaccumulative potential

Not available.

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

not available

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

SECTION 14: Transport information**14.1. UN number or ID number**

UN 3287

14.2. UN proper shipping name

TOXIC LIQUID, INORGANIC, N.O.S.

14.3. Transport hazard class(es)

6.1 Toxic substances

14.4. Packing group

III - substances presenting low danger

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

not available

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Hazard identification No.

60

UN number

3287

Classification code

T4

Safety signs

6.1



Air transport - ICAO/IATA

Packaging instructions passenger

666

Cargo packaging instructions

673

Marine transport - IMDG

EmS (emergency plan)

F-A, S-A

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. Product contains restricted explosives precursors: Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5.

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out (mixture).

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious 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.
H412	Harmful to aquatic life with long lasting effects.
H300+H330	Fatal if swallowed or if inhaled.

Guidelines for safe handling used in the safety data sheet

P280 Wear eye protection.

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

- P302+P352 IF ON SKIN: Wash with plenty of water and soap.
P273 Avoid release to the environment.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

A list of additional standard phrases used in the safety data sheet

EUH071 Corrosive to the respiratory tract.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC50	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
ES	Identification code for each substance listed in EINECS
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	Lethal dose of a substance in which it can be expected death of 50% of the population
log K _{ow}	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Eye Dam.	Serious eye damage
Ox. Liq.	Oxidising liquid

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Mercury(II) nitrate ready to use volumetric solution 0,05mol/l (N/10)

Creation date	05th September 2019	Version	2.0
Revision date	02nd December 2022		

Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 2.0 replaces the SDS version from 05 September 2019. Changes were made in sections 2, 13, 15 and 16.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.