

Mercuric nitrate monohydrate, Hi-AR[™]/ACS

Version number: GHS 2.0
Replaces version of: 2024-01-12 (GHS 1)

Revision: 2024-07-09

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

1.1 Product identifier

Identification of the substance	Mercuric nitrate monohydrate, Hi-AR[™]/ACS
CAS number	7783-34-8
Alternative number(s)	GRM7228

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Laboratory chemicals, Manufacture of substances
Uses advised against	Do not use for squirting or spraying.

1.3 Details of the supplier of the safety data sheet

HiMedia Laboratories Pvt. Ltd.
Plot No. C40, Road No. 21Y, Wagle Industrial Area, MIDC
Thane West Maharashtra 400604
India

Telephone: +91 22 69034800, +91 22 61169797
e-mail: info@himedialabs.com
Website: www.himedialabs.com

e-mail (competent person) info@himedialabs.com (HiMedia Laboratories Pvt. Ltd)

1.4 Emergency telephone number

Emergency information service +91 9321269711

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	1	Acute Tox. 1	H300
3.1D	acute toxicity (dermal)	1	Acute Tox. 1	H310
3.1I	acute toxicity (inhal.)	1	Acute Tox. 1	H330
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word danger

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- Pictograms

GHS06, GHS08, GHS09



- 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

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P262

Do not get in eyes, on skin, or on clothing.

P280

Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P310

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance

Mercuric nitrate monohydrate, Hi-AR™/ACS

Identifiers

CAS No

7783-34-8

EC No

233-152-3

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	0.5 mg/kg 5 mg/kg >0.005 mg/l/4h	oral dermal inhalation: dust/mist

Molecular formula

$\text{Hg}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$

Molar mass

342.62 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

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Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Ventilation requirements
Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.
- Specific designs for storage rooms or vessels
- Storage temperature
Recommended storage temperature: 10 – 30 °C
- Packaging compatibilities
Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	White to off-white hygroscopic crystals or powder, may become colored on exposure to light
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined
Solubility(ies)	not determined

Partition coefficient

Partition coefficient n-octanol/water (log value)	not relevant (inorganic)
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Vapour pressure	not determined
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Density and/or relative density

Density	not determined
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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Other safety characteristics

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Liquid content	100 %
Solid content	100 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

- Acute toxicity estimate (ATE)

Oral	0.5 mg/kg
Dermal	5 mg/kg
Inhalation: dust/mist	>0.005 mg/l/4h

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

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Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN 1625
IMDG-Code	UN 1625
ICAO-TI	UN 1625

14.2 UN proper shipping name

ADR/RID	MERCURIC NITRATE
IMDG-Code	MERCURIC NITRATE
ICAO-TI	Mercuric nitrate

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14.3 Transport hazard class(es)

ADR/RID	6.1
IMDG-Code	6.1
ICAO-TI	6.1

14.4 Packing group

ADR/RID	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

Classification code	T5
Danger label(s)	6.1, fish and tree



Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	60
Emergency Action Code	2X

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

Classification code	T5
Danger label(s)	6.1, fish and tree



Environmental hazards	yes (hazardous to water)
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g

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Transport category (TC)	2
Hazard identification No	60
International Maritime Dangerous Goods Code (IMDG) - Additional information	
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Danger label(s)	6.1, fish and tree
	
Special provisions (SP)	-
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g
EmS	F-A, S-A
Stowage category	A
Segregation group	7 - Heavy metals and their salts 11 - Mercury and mercury compounds

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	6.1



Excepted quantities (EQ)	E4
Limited quantities (LQ)	1 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Deco-Paint Directive

VOC content	0 %
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Industrial Emissions Directive (IED)

VOC content	0 %
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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

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Water Framework Directive (WFD)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
Mercuric nitrate monohydrate, Hi-AR™/ACS		b)	HAZ
Mercuric nitrate monohydrate, Hi-AR™/ACS	7439-97-6	c)	
Mercuric nitrate monohydrate, Hi-AR™/ACS		a)	
Mercuric nitrate monohydrate, Hi-AR™/ACS		a)	

Legend

- a) Indicative list of the main pollutants
- b) List of priority substances in the field of water policy
- c) Environmental Quality Standards for Priority Substances and certain other pollutants
- HAZ Identified as priority hazardous substance

Regulation concerning the export and import of hazardous chemicals (PIC)

Chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	CAS No	Category / subcategory	Use limitation
Mercuric nitrate monohydrate, Hi-AR™/ACS		p(1) p(2)	b b
Mercuric nitrate monohydrate, Hi-AR™/ACS		p	

Legend

- b Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation
- p Category: p - pesticides
- p(1) Sub-category: p(1) - pesticide in the group of plant protection products
- p(2) Sub-category: p(2) - other pesticide including biocides

Regulation on persistent organic pollutants (POP)

not listed

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Mercuric nitrate monohydrate, Hi-AR™/ACS	Mercury compounds		18

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.4	Emergency information service: This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM	Emergency information service: +91 9321269711	yes
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0,1\%$.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.	yes
3.1		EC No: change in the listing (table)	yes
4.1	Following skin contact: Rinse skin with water/shower.	Following skin contact: Wash with plenty of soap and water.	yes
5.1	Suitable extinguishing media: Water, Foam, ABC-powder	Suitable extinguishing media: Water spray, BC-powder, Carbon dioxide (CO ₂)	yes
6.3	Advice on how to contain a spill: Covering of drains, Take up mechanically	Advice on how to contain a spill: Covering of drains	yes
6.3	Advice on how to clean up a spill: Take up mechanically.	Advice on how to clean up a spill: Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder	yes
6.3		Appropriate containment techniques: Use of adsorbent materials.	yes
7.1	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Use only in well-ventilated areas.	yes
7.1	Specific notes/details: Dust deposits may accumulate on all deposition surfaces in a technical room.		yes
7.2	Managing of associated risks		yes
7.2	- Explosive atmospheres: Removal of dust deposits.		yes
7.2	- Ventilation requirements: Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.	- Ventilation requirements: Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.	yes
8.1	Control parameters	Control parameters: Occupational exposure limit values (Workplace Exposure Limits) this information is not available	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.2	Hand protection: In the case of wanting to use the gloves again, clean them before taking off and air them well.	Hand protection: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
		check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.	
8.2	Respiratory protection: Particulate filter device (EN 143).	Respiratory protection: In case of inadequate ventilation wear respiratory protection.	yes
9.1	Physical state: solid	Physical state: liquid	yes
9.1	Flash point: not applicable	Flash point: not determined	yes
9.1	pH (value): not applicable	pH (value): not determined	yes
9.1	Kinematic viscosity: not relevant	Kinematic viscosity: not determined	yes
9.1	Particle characteristics: no data available	Particle characteristics: not relevant (liquid)	yes
9.2		Liquid content: 100 %	yes
11.1		- Acute toxicity estimate (ATE): change in the listing (table)	yes
12.6	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0,1\%$.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.	yes
16		Abbreviations and acronyms: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air

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Abbr.	Descriptions of used abbreviations
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

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

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.