

Ammonium molybdate tetrahydrate

431346-250G

Version 2.0

Revision Date 15.04.2021

Supersedes 1

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

1.1. Product identifier

Product name : Ammonium molybdate tetrahydrate
SDS-number : 000000020218
Type of product : Substance
Remarks : Document according to Art. 32 of Regulation (EC) 1907/2006.

Chemical name : hexa-Ammonium heptamolybdate-4-hydrate
CAS-No. : 12054-85-2
REACH Registration Number : no data available

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

Use of the Substance/Mixture : Laboratory chemicals
Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company	: Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	: (49) 5137-999 0	
For further information, please contact:	: PMTEU Product Stewardship: SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
+1-303-389-1414 (Medical)
Country based Poison Control Center : see chapter 15.1

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label elements

REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known. Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
hexa-Ammonium heptamolybdate-4- hydrate	12054-85-2 234-722-4		100 %	N.C.*

N.C.* - Non-hazardous substance - for information only

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

If inhaled, remove to fresh air. Call a physician if irritation develops or persists.

Skin contact:

After contact with skin, wash immediately with plenty of water. Call a physician if irritation develops or persists.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Remove contact lenses. Call a physician immediately.

Ingestion:

Clean mouth with water and drink afterwards plenty of water. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray
Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fire hazardous decomposition products may be produced such as:

Ammonia
Molybdenum oxide
Nitrogen oxides (NO_x)

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

No unprotected exposed skin areas.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment.

6.3. Methods and materials for containment and cleaning up

Use mechanical handling equipment.

Pick for disposal in tightly closed containers

6.4. Reference to other sections

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For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Wear personal protective equipment. Use with local exhaust ventilation. Avoid dust formation.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

General industrial hygiene practice.

7.2. Conditions for safe storage, including any incompatibilities

Advice on common storage:

Do not store together with: Strong oxidizing agents Nitrites

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
hexa-Ammonium heptamolybdate-4-hydrate	EH40 WEL TWA	5 mg/m3 as Mo		
hexa-Ammonium heptamolybdate-4-hydrate	EH40 WEL STEL	10 mg/m3 as Mo		
hexa-Ammonium heptamolybdate-4-hydrate	EH40 WEL STEL	10 mg/m3 as Mo	15 minutes	

TWA - Time weighted average

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STEL - Short term exposure limit

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
hexa-Ammonium heptamolybdate-4-hydrate	Workers / Long-term systemic effects		19,36 mg/m ³	Inhalation	
hexa-Ammonium heptamolybdate-4-hydrate	Consumers / Long-term systemic effects		5,77 mg/m ³	Inhalation	
hexa-Ammonium heptamolybdate-4-hydrate	Consumers / Long-term systemic effects		5,89mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
hexa-Ammonium heptamolybdate-4-hydrate	Fresh water: 22,01 mg/l	
hexa-Ammonium heptamolybdate-4-hydrate	Marine water: 3,94 mg/l	
hexa-Ammonium heptamolybdate-4-hydrate	Sewage treatment plant: 37,61 mg/l	Assessment factor: 10
hexa-Ammonium heptamolybdate-4-hydrate	Fresh water sediment: 39170 mg/kg dw	
hexa-Ammonium heptamolybdate-4-hydrate	Marine sediment: 4090 mg/kg dw	
hexa-Ammonium heptamolybdate-4-hydrate	Soil: 16,46 mg/kg dw	

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8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Ensure that eyewash stations and safety showers are close to the workstation location.

Avoid contact with skin, eyes and clothing.

Personal protective equipment

Respiratory protection:

In the case of dust or aerosol formation use respirator with an approved filter.

Recommended Filter type:

Half mask with a particle filter P2 (EN 143)

Hand protection:

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 0,6 mm

Lapren®706

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety glasses with side-shields

Skin and body protection:

Protective suit

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Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: solid
Colour	: white
Odour	: odourless
	: No data available
Flammability	: The product is not flammable.
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: 190 °C
pH	: 5,35 Saturated solution
Viscosity, kinematic	: No data available
Water solubility	: soluble
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: No data available
Bulk density	: ca. 1.400 kg/m ³
Relative vapour density	: No data available

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9.2 Other Information

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

190 °C

Decomposition temperature

Loss of water of crystallization on heating.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Temperatures greater than recommended storage temperature.

10.5. Incompatible materials

Nitrites

Chlorates

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

LD50

Species: Rat

Value: 4.233 mg/kg

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Method: OECD Test Guideline 401
Test substance: REACH dossier "read-across"

Acute dermal toxicity:

LD50
Species: Rat
Value: > 2.000 mg/kg
Method: OECD Test Guideline 402
Test substance: REACH dossier "read-across"

Acute inhalation toxicity:

LC50
Species: Rat
Value: > 5,84 mg/l
Exposure time: 4 h
Method: OECD Test Guideline 403
Test substance: REACH dossier "read-across"

Skin irritation:

Species: Rabbit
Classification: non-irritant
Method: OECD Test Guideline 404
Test substance: REACH dossier "read-across"

Eye irritation:

Species: rabbit eye
Classification: non-irritant
Method: OECD Test Guideline 405
Test substance: REACH dossier "read-across"

Respiratory or skin sensitisation:

Maximisation Test
Route of exposure: Dermal
Species: Guinea pig
Classification: non-sensitizing
Method: OECD Test Guideline 406
Test substance: REACH dossier "read-across"

Germ cell mutagenicity:

Test Method: In vitro gene mutation study in mammalian cells
Cell type: Mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476
Test substance: REACH dossier "read-across"

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Test Method: Ames test
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 471
Test substance: REACH dossier "read-across"

Test Method: Micronucleus test
Cell type: Human lymphocytes
Metabolic activation: with and without metabolic activation
Result: negative
Test substance: REACH dossier "read-across"

Reproductive toxicity:

Method: OECD Test Guideline 414
Species: Rat
Route of Application: Oral
General Toxicity Maternal: NOAEL: > 40 mg/kg bw/d
Developmental Toxicity: NOAEL: > 40 mg/kg bw/d

Remarks: REACH dossier "read-across"

Aspiration hazard:

No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

LC50
semi-static test
Species: *Oncorhynchus mykiss* (rainbow trout)
Value: 420 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Test substance: REACH dossier "read-across"

Toxicity to aquatic plants:

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No data available

Toxicity to Microorganisms:

EC50

Respiration inhibition

Species: activated sludge

Value: 820 mg/l

Exposure time: 3 h

Method: OECD 209

Test substance: REACH dossier "read-across"

Toxicity to aquatic invertebrates:

EC50

static test

Species: Daphnia magna (Water flea)

Value: 79 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Test substance: REACH dossier "read-across"

12.2. Persistence and degradability

Biodegradability:

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:Not dangerous goods IMDG:Not dangerous goods IATA:Not dangerous goods

14.2 UN proper shipping name

ADR/RID:Not dangerous goods

IMDG:Not dangerous goods

IATA:Not dangerous goods

14.3 Transport hazard class(es)

14.4 Packaging group

14.5 Environmental hazards

ADR/RID:no

Marine pollutant: no

14.6 Special precautions for user

No data available

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

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Basis	Value	Remarks
Directive 2012/18/EC SEVESO III		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).
Regulation (EC) No. 1907/2006, Annex XVII		This product contains an ingredient according to Annex XVII of the REACH Regulation 1907/2006/EC.

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+359)29154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240 Bonn : 0228/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	808250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

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	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Further information

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All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative and toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.
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