

**Manganese(II) sulfate.1aq a.r.**

Revision: 03.11.2025

Product code: AC14.00972

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

Manganese(II) sulfate.1aq a.r.

REACH Registration Number: 01-2119456624-35-XXXX  
CAS No: 10034-96-5  
Index No: 025-003-00-4  
EC No: 232-089-9

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

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: N-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analyticchem.com  
Contact person: SDS service department  
E-mail: SDS@analyticchem.com  
Internet: www.analyticchem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV  
Street: Industriezone "De Arend" 2  
Place: B-8210 Zedelgem  
Telephone: +32 50 28 83 20  
E-mail: info.be@analyticchem.com  
Contact person: SDS service department  
E-mail: SDS@analyticchem.com  
Responsible Department: AnalytiChem  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

**1.4. Emergency telephone number:**

+44 20 3807 3798 (CHEMTREC)

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**Further Information**

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.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Eye Dam. 1; H318  
STOT RE 2; H373  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:

**Hazard statements**

H318 Causes serious eye damage.  
H373 May cause damage to organs (brain) through prolonged or repeated exposure if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P314 Get medical advice/attention if you feel unwell.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Sum formula: MnSO<sub>4</sub> \* H<sub>2</sub>O

Molecular weight: 169,02 g/mol

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10034-96-5	Manganese(II) sulphate monohydrate			100 %
	232-089-9	025-003-00-4	01-2119456624-35-XXXX	
	Eye Dam. 1, STOT RE 2, Aquatic Chronic 2; H318 H373 H411			

Full text of H and EUH statements: see section 16.

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**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
Specific Conc. Limits, M-factors and ATE			
10034-96-5	232-089-9	Manganese(II) sulphate monohydrate	100 %
inhalation: LC50 = > 4,45 mg/l (dusts or mists); oral: LD50 = 2150 mg/kg			

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

No data available

**After inhalation**

Provide fresh air.

Call a physician immediately.

**After contact with skin**

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

In case of skin irritation, consult a physician.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Gastrointestinal complaints

Vomiting

Irritant

corrosive

Risk of serious damage to eyes.

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

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Non-combustible solids

Hazardous combustion products

In case of fire may be liberated:

Sulphur oxides

Metal oxide smoke, toxic

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**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

Avoid contact with skin, eyes and clothes.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Avoid dust formation.

Do not breathe dust.

Read label before use.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

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**Further information on handling**

Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Take off immediately all contaminated clothing and wash it before reuse.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Store in a dry place.

**Hints on joint storage**

Take national regulations into account.

**Further information on storage conditions**

Keep container tightly closed.  
storage temperature +15°C - +25°C

**7.3. Specific end use(s)**

Laboratory chemicals

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

CAS No	Substance	Exposure route	Effect	Value
10034-96-5	Manganese(II) sulphate monohydrate			
	Worker DNEL, long-term	inhalation	systemic	0,2 mg/m <sup>3</sup>
	Worker DNEL, long-term	dermal	systemic	0,004 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	0,043 mg/m <sup>3</sup>
	Consumer DNEL, long-term	dermal	systemic	0,002 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
10034-96-5	Manganese(II) sulphate monohydrate	
	Freshwater	0,013 mg/l
	Freshwater (intermittent releases)	0,03 mg/l
	Marine water	0 mg/l
	Freshwater sediment	0,011 mg/kg
	Marine sediment	0,001 mg/kg
	Micro-organisms in sewage treatment plants (STP)	56 mg/l
	Soil	25,1 mg/kg

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaustion at critical locations.

**Individual protection measures, such as personal protective equipment**

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**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

**By long-term hand contact**

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: &gt; 480 min

**By short-term hand contact**

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): &gt; 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Skin protection**

Wear suitable protective clothing.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	pink
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	>449 °C
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not determined

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Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not determined
Decomposition temperature:	400-450/850 °C
pH-Value (at 20 °C):	3,0 - 3,5 (50 g/l)
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	762 g/l
Solubility in other solvents	
not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	not determined
Vapour pressure:	No data available
Vapour pressure:	not determined
Density (at 20 °C):	2,95 g/cm <sup>3</sup>
Relative density:	not determined
Bulk density:	300-1200 kg/m <sup>3</sup>
Relative vapour density:	not determined
Particle characteristics:	not determined

**9.2. Other information****Information with regard to physical hazard classes**

Explosive properties	
No data available	
Sustained combustibility:	No data available
Self-ignition temperature	
Solid:	not determined
Gas:	not applicable
Oxidizing properties	
No data available	

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	100%
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
not determined:	
Viscosity / dynamic:	not determined
Flow time:	not determined

**Further Information**

not determined

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

No data available

**10.2. Chemical stability**

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The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Acid

**10.4. Conditions to avoid**

Heat

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10034-96-5	Manganese(II) sulphate monohydrate				
	oral	LD50 mg/kg	2150 Rat	Indian Journal of Pharmacology, 23(3): 1	In all tests trace metal salts were diss
	inhalation (4 h) dust/mist	LC50 mg/l	> 4,45 Rat	Study report (2010)	OECD Guideline 403

**Irritation and corrosivity**

Serious eye damage/eye irritation: Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Risk of serious damage to eyes.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (Manganese(II) sulphate monohydrate)

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

No data available

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**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

Gastrointestinal complaints

Vomiting

Irritant

corrosive

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

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name						
		Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
10034-96-5	Manganese(II) sulphate monohydrate						
	Acute fish toxicity	LC50 mg/l	49,9	96 h	Salmo trutta	Federal aid Project #F-243, Colorado Div	A flow-through toxicity test using a mod
	Acute algae toxicity	ErC50	61 mg/l	72 h	Desmodesmus subspicatus	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50	9,8 mg/l	48 h	Daphnia magna	Journal of the Fisheries Research Board	The toxicity of manganese chloride to Da
	Fish toxicity	NOEC mg/l	4,49689	35 d	Danio rerio	Study report (2009)	OECD Guideline 210
	Crustacea toxicity	NOEC mg/l	0,02	14 d	other aquatic mollusc: Crassostrea gigas	Bull. Environ.Contam.T oxicol. 31, 344-35	The effects of up to eight elements, inc
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209

**12.2. Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of UK REACH.

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**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not allow to enter into surface water or drains.

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

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

Do not mix with other wastes.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

UN 3077

**14.2. UN proper shipping name:**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Manganese(II) sulphate monohydrate)**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

III

Hazard label:

9

Classification code:

M7

Special Provisions:

274 335 375 601

Limited quantity:

5 kg

Excepted quantity:

E1

Transport category:

3

Hazard No:

90

Tunnel restriction code:

-

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

UN 3077

**14.2. UN proper shipping name:**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Manganese(II) sulphate monohydrate)**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

III

Hazard label:

9

Classification code:

M7

Special Provisions:

274 335 375 601

Limited quantity:

5 kg

Excepted quantity:

E1

**Marine transport (IMDG)****14.1. UN number or ID number:**

UN 3077

**14.2. UN proper shipping name:**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Manganese(II) sulphate monohydrate)**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

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Hazard label:	9
Special Provisions:	274, 335, 966, 967, 969
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-F

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:**

UN 3077

**14.2. UN proper shipping name:**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Manganese(II) sulphate monohydrate)**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

III

Hazard label:

9

Special Provisions:

A97 A158 A179 A197

Limited quantity Passenger:

30 kg G

Passenger LQ:

Y956

Excepted quantity:

E1

IATA-packing instructions - Passenger:

956

IATA-max. quantity - Passenger:

400 kg

IATA-packing instructions - Cargo:

956

IATA-max. quantity - Cargo:

400 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: Manganese(II) sulphate monohydrate

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to Directive 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles 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 hazard class (D): 2 - obviously hazardous to water

**SECTION 16: Other information**

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**Abbreviations and acronyms**

Eye Dam. 1: Serious eye damage, hazard category 1  
STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2  
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2  
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  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H318 Causes serious eye damage.  
H373 May cause damage to organs (brain) through prolonged or repeated exposure if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users