NU3077 Manganese (II) sulfate monohydrate AGR

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Date of issue: 06/08/2015 Revision date: 05/04/2023 Supersedes version of: 13/04/2018 Version: 1.4

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	NU3077 Manganese (II) sulfate monohydrate AGR
EC Index-No.	:	025-003-00-4
EC-No.	:	232-089-9
CAS-No.	:	10034-96-5
REACH registration No	:	05-2115399765-25
Product code	:	MNSU-01A
Formula	:	MnSO4·H2O

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

1.2.1. Relevant identified uses

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Repeated exposure, Category 2	H373
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05 GHS08 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H318 - Causes serious eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P310 - Immediately call a POISON CENTER or doctor.
P314 - Get medical advice/attention if you feel unwell.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Manganese (II) sulfate monohydrate	CAS-No.: 10034-96-5 EC-No.: 232-089-9 EC Index-No.: 025-003-00-4 REACH-no: 05-2115399765-25	99

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.

First-aid measures after ingestion : Rinse mouth. Drink plenty of water. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation : May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Symptoms/effects after skin contact : irritation (itching, redness, blistering).

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Irritation to throat and respiratory system.

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Water spray. Carbon dioxide. Foam.
Unsuitable extinguishing media	:	Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Not flammable.
Hazardous decomposition products in case of fire	:	fume.

5.3. Advice for firefighters

Firefighting instructions	:	Exercise caution when fighting any chemical fire.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required.
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Collect spillage.
Methods for cleaning up	:	Shovel or sweep up and put in a closed container for disposal.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid dust formation. Do not breathe dust.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.
Storage area	:	Store in a well-ventilated place.
Special rules on packaging	:	Store in a closed container. Keep only in original container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

NU3077 Manganese (II) sulfate monohydrate AGR (10034-96-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0,2 mg/m³
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	0,2 mg/m³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

NU3077 Manganese (II) sulfate monohydrate AGR (10034-96-5)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	0,00414 mg/kg bodyweight/day
Acute - systemic effects, inhalation	0,2 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	0,0021 mg/kg bodyweight
Acute - systemic effects, inhalation	0,43 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0,0128 mg/m³
PNEC aqua (marine water)	0,0004 mg/m³
PNEC (Sediment)	
PNEC sediment (freshwater)	0,0114 mg/kg dwt
PNEC sediment (marine water)	0,00114 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	56 mg/m³

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves against chemicals (EN 374)

8.2.2.3. Respiratory protection

Respiratory protection:
Wear appropriate mask

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
	Type P2		

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	pink.
Molecular mass	:	169,02 g/mol
Odour	:	odourless.
Odour threshold	:	Not available
Melting point	:	700 °C
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
pH	:	6 – 6,5 1%, 20º C
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Water: 43 – 45 % (20 °C)
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50 °C	:	Not available
Density	:	2,93 g/cm³ (20 °C)
Relative density	:	Not available
Relative vapour density at 20 °C	:	Not applicable
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable in use and storage conditions as recommended in item 7.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

High temperature. Overheating.

10.5. Incompatible materials

Acids. Metals. Oxidizing agent.

10.6. Hazardous decomposition products

Carbon dioxide.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

NU3077 Manganese (II) sulfate monohydrate AGR (10034-96-5)	
LD50 oral rat	2150 mg/kg
LC50 inhalation rat (mg/l)	> 4,45 mg/m³

Skin corrosion/irritation : Not classified
pH: 6 – 6,5 1%, 20º C

Serious eye damage/irritation : Causes serious eye damage.
pH: 6 – 6,5 1%, 20º C

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

NU3077 Manganese (II) sulfate monohydrate AGR (10034-96-5)	
LC50 - Fish [1]	49,9 mg/l 96H
EC50 - Daphnia [1]	9,8 mg/l
EC50 72h - Algae [1]	61 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Must follow special treatment according to local regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 3077

UN-No. (IMDG) : UN 3077

UN-No. (IATA) : UN 3077

UN-No. (ADN) : UN 3077

UN-No. (RID) : UN 3077

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Proper Shipping Name (IATA) : Environmentally hazardous substance, solid, n.o.s.

Proper Shipping Name (ADN) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Proper Shipping Name (RID) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Transport document description (ADR)	:	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ((Manganese (II) sulfate monohydrate)), 9, III, (E)
Transport document description (IMDG)	:	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, MARINE POLLUTANT
Transport document description (IATA)	:	UN 3077 Environmentally hazardous substance, solid, n.o.s., 9, III
Transport document description (ADN)	:	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III
Transport document description (RID)	:	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 9

Danger labels (ADR) : 9

:



IMDG

Transport hazard class(es) (IMDG) : 9

Danger labels (IMDG) : 9

:



IATA

Transport hazard class(es) (IATA) : 9

Danger labels (IATA) : 9

:



ADN

Transport hazard class(es) (ADN) : 9

Danger labels (ADN) : 9

:



RID

Transport hazard class(es) (RID) : 9

Danger labels (RID) : 9

:



14.4. Packing group

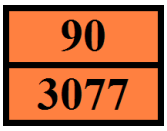
Packing group (ADR)	:	III
Packing group (IMDG)	:	III
Packing group (IATA)	:	III
Packing group (ADN)	:	III
Packing group (RID)	:	III

14.5. Environmental hazards

Dangerous for the environment	:	Yes
Marine pollutant	:	Yes
Other information	:	No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	M7
Special provisions (ADR)	:	274, 335, 601
Limited quantities (ADR)	:	5kg
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P002, IBC08, LP02, R001
Special packing provisions (ADR)	:	PP12, B3
Mixed packing provisions (ADR)	:	MP10
Portable tank and bulk container instructions (ADR)	:	T1, BK1, BK2
Portable tank and bulk container special provisions (ADR)	:	TP33
Tank code (ADR)	:	SGAV, LGBV
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V13
Special provisions for carriage - Bulk (ADR)	:	VV1
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13
Hazard identification number (Kemler No.)	:	90
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2Z

Transport by sea

Special provisions (IMDG)	:	274, 335, 966, 967
Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002, LP02
Special packing provisions (IMDG)	:	PP12
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1, BK1, BK2, BK3
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-F
Stowage category (IMDG)	:	A

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y956
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	956
PCA max net quantity (IATA)	:	400kg
CAO packing instructions (IATA)	:	956
CAO max net quantity (IATA)	:	400kg
Special provisions (IATA)	:	A97, A158, A179
ERG code (IATA)	:	9L

Inland waterway transport

Classification code (ADN)	:	M7
Special provisions (ADN)	:	274, 335, 61

Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T* B**
Equipment required (ADN)	:	PP, A
Number of blue cones/lights (ADN)	:	0
Additional requirements/Remarks (ADN)	:	* Only in the molten state. ** For carriage in bulk see also 7.1.4.1. ** * Only in the case of transport in bulk.

Rail transport

Classification code (RID)	:	M7
Special provisions (RID)	:	274, 335, 601
Limited quantities (RID)	:	5kg
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P002, IBC08, LP02, R001
Special packing provisions (RID)	:	PP12, B3
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T1, BK1, BK2
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAV, LGBV
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W13
Special provisions for carriage – Bulk (RID)	:	VW1
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW31
Colis express (express parcels) (RID)	:	CE11
Hazard identification number (RID)	:	90

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	**Applicable on**
3(b)	NU3077 Manganese (II) sulfate monohydrate AGR
3(c)	NU3077 Manganese (II) sulfate monohydrate AGR

REACH Annex XIV (Authorisation List)

NU3077 Manganese (II) sulfate monohydrate AGR is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

NU3077 Manganese (II) sulfate monohydrate AGR is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

NU3077 Manganese (II) sulfate monohydrate AGR is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

NU3077 Manganese (II) sulfate monohydrate AGR is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Manganese (II) sulfate monohydrate is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

Germany

Water hazard class (WGK)	:	WGK 2, Significantly hazardous to water (Classification according to AwSV; ID No. 522).
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	Manganese (II) sulfate monohydrate is listed
SZW-lijst van mutagene stoffen	:	Manganese (II) sulfate monohydrate is listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	:	The substance is not listed

Denmark

Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.