

Safety Data Sheet

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

Reference number: A0501

Issue date: 26/07/2023 Revision date: 10/07/2023 Supersedes version of: 04/04/2023 Version: 5.0

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

1.1. Product identifier

Product form	: Substance
Trade name	: Ammonium nitrate
EC-No.	: 229-347-8
CAS-No.	: 6484-52-2
REACH registration No.	: 01-2119490981-27-0012
Product code	: A0501
Formula	: NH ₄ NO ₃
Product group	: Raw material
Other means of identification	: Ammonium nitrate

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Duchefa Biochemie B.V.
A. Hofmanweg 71
2031 BH Haarlem
The Netherlands
T +31(0)23-5319093 - F +31(0)23-5318027
info@duchefa.nl

1.4. Emergency telephone number

Emergency number	: Supplier contact information: +31(0)23-5319093 (M-F 09:00-17:00) +31(0)6-30008100 (outside office hours)
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Country	Organisation/Company	Address	Emergency number	Comment
	World Health Organization world directory of poison centres	http://apps.who.int/poisoncentres/		Consult website for a local poison centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Oxidising Solids, Category 3	H272
Serious eye damage/eye irritation, Category 2	H319
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS03

GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H272 - May intensify fire; oxidiser.

H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 - Keep away from clothing and other combustible materials.

P264 - Wash hands thoroughly after handling.

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.

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazardsContains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII**SECTION 3: Composition/information on ingredients****3.1. Substances**

Substance type :

Mono-constituent

Name :

Ammonium nitrate

CAS-No. :

6484-52-2

EC-No. :

229-347-8

Name	Product identifier	%
Ammonium nitrate	CAS-No.: 6484-52-2 EC-No.: 229-347-8	$\geq 97,5$

3.2. Mixtures

Not applicable

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

First-aid measures general :

Never give anything by mouth to an unconscious person.

First-aid measures after inhalation :

Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact :

Wash with plenty of water/...

First-aid measures after eye contact :

Rinse immediately with plenty of water. Seek medical advice.

First-aid measures after ingestion :

Rinse mouth. Obtain emergency medical attention.

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

Symptoms/effects :

Overexposure to this material may result in methemoglobinemia. May cause cyanosis.

Symptoms/effects after eye contact :

Causes serious eye irritation.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : High volume water jet.
Unsuitable extinguishing media : Dry sand. Carbon dioxide (CO₂), dry chemical powder, foam. Halons.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : Be careful of explosion risk.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Prevent fire fighting water from entering the environment.
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

General measures : Eliminate every possible source of ignition.

6.1.1. For non-emergency personnel

Emergency procedures : Do not breathe dust. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

6.4. Reference to other sections

See Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation.
Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Protect from sunlight. Store in a well-ventilated place.
Storage temperature : 15 – 25 °C
Information on mixed storage : Keep away from combustible materials.

7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

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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

Ammonium nitrate (6484-52-2)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	5,12 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	36 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	2,56 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	8,9 mg/m ³
Long-term - systemic effects, dermal	2,56 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,45 mg/l
PNEC aqua (marine water)	0,045 mg/l
PNEC (STP)	
PNEC sewage treatment plant	18 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:

Wear approved mask. Filter type P1 (EN 143)

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8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Light yellow.
Molecular mass	: 80,04 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: 169 °C
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Oxidising properties	: May cause fire or explosion; strong oxidiser.
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	: > 210 °C
pH	: 5 – 6,5
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Water: 1870 g/l
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1,72 g/cm ³ Type: 'density'
Relative density	: 1,72
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

None under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

React in contact of acids. React in contact of. Bases.

Ammonium nitrate

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10.4. Conditions to avoid

Overheating.

10.5. Incompatible materials

Strong bases. Strong acids.

10.6. Hazardous decomposition products

Nitrogen oxides.

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

Ammonium nitrate (6484-52-2)	
LD50 oral rat	> 2950 (\leq) mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 Inhalation - Rat	> 88,8 mg/l

Ammonium nitrate (6484-52-2)	
LD50 oral rat	2950 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Not classified
pH: 5 – 6,5

Ammonium nitrate (6484-52-2)	
pH	5,43 Concentration: 0,1 other:M

Serious eye damage/irritation : Causes serious eye irritation.
pH: 5 – 6,5

Ammonium nitrate (6484-52-2)	
pH	5,43 Concentration: 0,1 other:M

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

Ammonium nitrate (6484-52-2)	
LOAEL (dermal, rat/rabbit)	\geq mg/kg bodyweight

STOT-repeated exposure : Not classified

Ammonium nitrate (6484-52-2)	
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	\geq 0,185 mg/l air Animal: rat, Animal sex: male
NOAEL (subchronic, oral, animal/male, 90 days)	256 mg/kg bodyweight Animal: , Animal sex: male
NOAEL (subchronic, oral, animal/female, 90 days)	284 mg/kg bodyweight Animal: , Animal sex: female

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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) : Not classified

Ammonium nitrate (6484-52-2)	
LC50 - Fish [1]	447 mg/l Cyprinus carpio (Common carp)
EC50 - Crustacea [1]	490 mg/l EC50 48h - Daphnia magna [mg/l]
EC50 - Other aquatic organisms [1]	490 mg/l Test organisms (species):
ErC50 algae	> 1700 mg/l 10 days
NOEC (chronic)	555 mg/l 7 days, (Bullia digitalis)

Ammonium nitrate (6484-52-2)	
LC50 - Fish [1]	6000 mg/l Source: HSDB
EC50 - Crustacea [1]	490 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

Ammonium nitrate (6484-52-2)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Ammonium nitrate (6484-52-2)	
Bioaccumulative potential	Not established.

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.
 European List of Waste (LoW) code : 06 10 02* - wastes containing dangerous substances

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN number or ID number

UN-No. (ADR) : UN 1942
UN-No. (IMDG) : UN 1942
UN-No. (IATA) : UN 1942

14.2. UN proper shipping name

Proper Shipping Name (ADR) : AMMONIUM NITRATE
Proper Shipping Name (IMDG) : AMMONIUM NITRATE
Proper Shipping Name (IATA) : Ammonium nitrate
Transport document description (ADR) : UN 1942 AMMONIUM NITRATE, 5.1, III, (E)
Transport document description (IMDG) : UN 1942 AMMONIUM NITRATE, 5.1, III
Transport document description (IATA) : UN 1942 Ammonium nitrate, 5.1, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1
Danger labels (ADR) : 5.1



IMDG

Transport hazard class(es) (IMDG) : 5.1
Danger labels (IMDG) : 5.1



IATA

Transport hazard class(es) (IATA) : 5.1
Danger labels (IATA) : 5.1



14.4. Packing group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

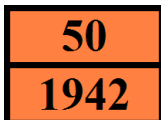
Overland transport

Classification code (ADR) : O2
Special provisions (ADR) : 306, 611
Limited quantities (ADR) : 5kg

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Excepted quantities (ADR)	: E1
Transport category (ADR)	: 3
Special provisions for carriage - Operation (ADR)	: S23
Hazard identification number (Kemler No.)	: 50
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 1Z

Transport by sea

Special provisions (IMDG)	: 900, 952, 967
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
EmS-No. (Fire)	: F-H
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: C
Stowage and handling (IMDG)	: SW1, SW14, SW23
Segregation (IMDG)	: SG16, SG42, SG45, SG47, SG48, SG51, SG56, SG58, SG59, SG61
Properties and observations (IMDG)	: Crystals, granules or prills. Soluble in water. Supporter of combustion. A major fire aboard a ship carrying this substance may involve a risk of explosion in the event of contamination (e.g. by fuel oil) or strong confinement. An adjacent detonation may also involve the risk of explosion. If heated strongly, decomposes, giving off toxic gases and gases which support combustion. Transport of AMMONIUM NITRATE liable to self heating sufficient to initiate decomposition is prohibited.
MFAG-No	: 140

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y546
PCA limited quantity max net quantity (IATA)	: 10kg
PCA packing instructions (IATA)	: 559
PCA max net quantity (IATA)	: 25kg
CAO packing instructions (IATA)	: 563
CAO max net quantity (IATA)	: 100kg
Special provisions (IATA)	: A64
ERG code (IATA)	: 5L

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)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

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PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Seveso Directive (Disaster Risk Reduction)

Seveso Additional information : Directive 2012/18/EU (SEVESO III)

Explosives Precursors Regulation (2019/1148)

Contains substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

ANNEX I RESTRICTED EXPLOSIVES PRECURSORS

List of substances which shall not be made available to, or introduced, possessed or used by, members of the general public, whether on their own or in mixtures or substances that include those substances, unless the concentration is equal to or lower than the limit values set out in column 2, and for which suspicious transactions and significant disappearances and thefts are to be reported to the relevant national contact point within 24 hours.

Name	CAS-No.	Limit value	Upper limit value for licensing under Article 5(3)	Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively	Combined Nomenclature code for mixture without constituents which would determine classification under another CN code
Ammonium nitrate	6484-52-2	45,7 % w/w	No licensing permitted	3102 30 10 (in aqueous solution); 3102 30 90 (other)	ex 3824 99 96

Please see https://ec.europa.eu/home-affairs/system/files/2021-11/list_of_competent_authorities_and_national_contact_points_en.pdf

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 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

Ensure all national/local regulations are observed.

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 212).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – : The substance is not listed

Borstvoeding

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SZW-lijst van reprotoxische stoffen – : The substance is not listed
 Vruchtbaarheid
 SZW-lijst van reprotoxische stoffen – : The substance is not listed
 Ontwikkeling

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Substance type	Added	
1.1	Formula	Modified	
1.1	Other means of identification	Added	
2.2	Precautionary statements (CLP)	Modified	
9.1	Density	Added	
11.1	LD50 oral rat	Modified	
11.1	LOAEL (dermal, rat/rabbit)	Added	
11.1	LC50 Inhalation - Rat	Modified	
11.1	NOAEL (subchronic, oral, animal/female, 90 days)	Added	
11.1	NOAEL (subchronic, oral, animal/male, 90 days)	Added	
11.1	NOAEC (inhalation, rat, dust/mist/fume, 90 days)	Added	
12.1	EC50 - Other aquatic organisms [1]	Added	

Abbreviations and acronyms:	
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

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Abbreviations and acronyms:

SDS	Safety Data Sheet
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Data sources : Manufacturer.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H272	May intensify fire; oxidiser.
H319	Causes serious eye irritation.
Ox. Sol. 3	Oxidising Solids, Category 3

Safety Data Sheet (SDS), EU Ducheafa 2023