

Ammonium nitrate

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 05/10/2010 Revision date: 25/09/2017

Supersedes 29/07/2011

A0501

Version: 3.0

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 : NH₄NO₃
 Product group : Raw material

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)6-30109355 (outside office hours)

Organisation/Company	Address	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 hazard classes and H-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) :



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, open flames, sparks. No smoking.
P220 - Keep/Store away from combustibles.
P241 - Use explosion-proof electrical, ventilating, lighting equipment.
P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

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	>= 97,5

Full text of H-statements: see section 16

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.

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 Heading 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

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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

8.2. Exposure controls

Hand protection:

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

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear approved mask. Filter type P1 (EN 143)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 80,04 g/mol
Colour	: Light yellow.
Odour	: Odourless.
Odour threshold	: No data available
pH	: ~ 5 - 6,5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 169 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 210 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1,72
Solubility	: Water: 1870 g/l
Log Pow	: No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: May cause fire or explosion; strong oxidiser.
Explosive limits	: No data available

9.2. Other information

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.

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 toxicological effects

Acute toxicity : Not classified

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

Skin corrosion/irritation	: Not classified pH: ≈ 5 - 6,5
Serious eye damage/irritation	: Causes serious eye irritation. pH: ≈ 5 - 6,5
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	: Not classified
Aspiration hazard	: Not classified

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SECTION 12: Ecological information

12.1. Toxicity

Ammonium nitrate (6484-52-2)	
LC50 fish 1	447 mg/l <i>Cyprinus carpio</i> (Common carp)
EC50 <i>Daphnia</i> 1	490 mg/l EC50 48h - <i>Daphnia magna</i> [mg/l]
ErC50 (algae)	> 1700 mg/l 10 days
NOEC (chronic)	555 mg/l 7 days, (<i>Bullia digitalis</i>)

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. 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

SECTION 14: Transport information

In accordance with ADR / IATA / IMDG

ADR	IMDG	IATA
14.1. UN number		
1942	1942	1942
14.2. UN proper shipping name		
AMMONIUM NITRATE	AMMONIUM NITRATE	Ammonium nitrate
Transport document description		
UN 1942 AMMONIUM NITRATE, 5.1, III, (E)	UN 1942 AMMONIUM NITRATE, 5.1, III	UN 1942 Ammonium nitrate, 5.1, III
14.3. Transport hazard class(es)		
5.1	5.1	5.1
		
14.4. Packing group		
III	III	III

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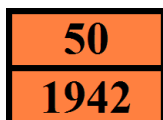
according to Regulation (EU) 2015/830

ADR	IMDG	IATA
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
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
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. Transport in bulk according to Annex II of Marpol and the IBC Code

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**

No REACH Annex XVII restrictions

Ammonium nitrate is not on the REACH Candidate List

Ammonium nitrate is not on the REACH Annex XIV List

Seveso Information : Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

Ensure all national/local regulations are observed.

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 212)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

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

SZW-lijst van mutagene stoffen : The substance is not 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

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

1.1	REACH registration No	Added	
1.4	Emergency number	Modified	
2	Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]	Removed	Obsolete
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Added	H319, P305+P351, GHS07
8.1	Long-term - systemic effects, oral	Added	
8.1	Long-term - systemic effects, inhalation	Added	
8.1	Long-term - systemic effects, dermal	Added	
8.1	Long-term - systemic effects, dermal	Added	

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8.1	Long-term - systemic effects, inhalation	Added	
8.1	PNEC aqua (freshwater)	Added	
8.1	PNEC aqua (marine water)	Added	
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves
11.1	LD50 oral rat	Modified	
11.1	LD50 dermal rat	Added	
11.1	LC50 inhalation rat (mg/l)	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
SDS	Safety Data Sheet

Data sources : Manufacturer.

Full text of H- and EUH-statements:

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

SDS Biochemicals version 2017

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