

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Ammonium Nitrate 24,5 - 28% N

Version 3.0

Revision Date: 19.06.2017

Print Date 19.06.2017

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

1.1 Product identifier

Trade name : NAC+S 26 N +13SO3 / NAC+S 27 N +9SO3

CAS-No. : 6484-52-2

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

Use of the Substance/Mixture : Fertilizers
Ammonium nitrate: fertilizer grade

1.3 Details of the supplier of the safety data sheet

Supplier : Borealis L.A.T GmbH
St.-Peter-Strasse 25, 4021 Linz, Austria
Telephone: +43 732 6915-0

E-mail address : sds@borealisgroup.com

1.4 Emergency telephone number

+44 (0) 1235 239 670 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3 Other hazards

None known.

Results of PBT and vPvB assessment : PBT and vPvB assessment: Not applicable (inorganic)

SECTION 3: Composition/information on ingredients

Ammonium nitrate: fertilizer grade These products comply with European regulation 2003/2003 "EC"

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FERTILISER"

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 70 - < 80

Remarks : Mixtures containing less than 80% ammonium nitrate are not classified as irritating to eyes (OECD 405 and OECD 437 studies done on similar mixtures).
Total combustible materials in the form of carbon: equal to or less than 0.4 %.

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : Move to fresh air.
Keep patient warm and at rest.
Give oxygen or artificial respiration if needed.
Seek medical advice.
- In case of skin contact : Wash off with plenty of water.
Get medical attention if irritation develops and persists.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention if irritation develops and persists.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Get medical advice/ attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Ingestion may provoke the following symptoms:
Gastrointestinal disturbance
The absorption of this product into the body may lead to the

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formation of methaemoglobine that, in sufficient concentration, causes cyanosis.

Effects of repeated or prolonged skin contacts may include:
Discomfort

Inhalation:
Risk of delayed pulmonary oedema.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Keep under medical supervision for at least 48 hours.

Treat symptomatically.
There is no specific antidote available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : High volume water jet

Unsuitable extinguishing media : Foam
Sand
Dry powder
Halons
Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.
Toxic vapours are evolved.
Nitrogen oxides (NO_x)
Ammonia

Potential explosion hazard when heated under strong confinement (e.g. tubes and drains) especially if contaminated with incompatible material.
See chapter 10.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Complete suit protecting against chemicals

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.
Contact the proper local authorities.

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Ensure doors and windows are opened.
Avoid inhalation of decomposition fumes.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Avoid dust formation.
Sweep up to prevent slipping hazard.
Eliminate all ignition sources if safe to do so.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.
Do not mix with sawdust, combustible or organic material.
Keep the container open.
After cleaning, flush away traces with water.

6.4 Reference to other sections

For personal protection see section 8.
For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid dust formation.
Ensure adequate ventilation.
Keep away from incompatible materials.
Use only clean equipment.

Keep away from food, drink and animal feedingstuffs.

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Keep away from combustible material.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. When using do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

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7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Restrict stack size (according to local regulations) and keep at least 1m distance around the stacks of bagged products. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

Further information on storage conditions : Protect from sunlight. Do not expose to temperatures exceeding 32 °C. Avoid unprotected outdoor storage. Protect from moisture.

Advice on common storage : Do not store near combustible materials. Keep away from incompatible materials. See chapter 10.

On farm, ensure that the fertilizer is not stored near hay, straw, grain, diesel oil, etc.

Packaging material : Suitable material: Plastics, Stainless steel, Aluminium
Unsuitable material: Copper, Zinc

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Avoid dust formation.

Provide adequate ventilation.

Before working with fire and hot materials on containers and apparatus remains of products must be deleted through efficient cleaning with water.

Personal protective equipment

Eye protection : Safety glasses
(EN 166)

Hand protection

Remarks : For prolonged or repeated contact use protective gloves.

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Rubber or plastic gloves Leather gloves
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Respirator must be worn if exposed to dust.

Respiratory protection complying with EN 143 / EN 149.

Filter type : P1 filter

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : solid

Colour : Varies depending on the formulation:
light grey, light brown

Odour : odourless

Odour Threshold : Not applicable

pH : 6 - 7

Melting range : 120 - 180 °C

Boiling point : Decomposes below the boiling point.

Flash point : Not applicable, (inorganic)

Flammability (solid, gas) : The product is not flammable.

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Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: Not applicable
Density	: 1.030 kg/m ³
Bulk density	: 1.030 kg/m ³
Solubility(ies) Water solubility	: partly soluble 1.870 g/l (Ammonium nitrate) (20 °C)
Partition coefficient: n- octanol/water	: Not applicable (inorganic)
Ignition temperature	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 130 - 210 °C
Viscosity Viscosity, dynamic	: Not applicable (solid)
Explosive properties	: Ammonium nitrate with less than 0,4% of organic carbon is not classified as an explosive under the UN tests (series 1 and 2). Potential explosion hazard when heated under strong confinement (e.g. tubes and drains) especially if contaminated with incompatible material.
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

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10.2 Chemical stability

Stable under recommended storage conditions.

Repeated heating and cooling above and below 32°C the product becomes porous through the change of crystalline structure, coupled with increased dust building and increased volume of prills. This can lead to a breaking of bags and to product withdrawal.

10.3 Possibility of hazardous reactions

Hazardous reactions : Contact with strong bases liberates ammonia.
Contact with strong acids liberates nitrous gases.
Decomposes on heating.

10.4 Conditions to avoid

Conditions to avoid : Temperature > 130 °C
Risk of explosion if heated under confinement.
Keep away from incompatible materials.
Exposure to air or moisture over prolonged periods.

10.5 Incompatible materials

Materials to avoid : Organic materials
Combustible material
Reducing agents
Strong acids and strong bases
Powdered metals
Copper
Copper alloys
Chlorates
Chromates
Nitrites
sulphur
permanganates

10.6 Hazardous decomposition products

|| Nitrogen oxides (NOx), Ammonia

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

|| Not classified based on available information.

Components:

Ammonium nitrate:

Acute oral toxicity : LD50 (Rat): 2.950 mg/kg
Method: OECD Test Guideline 401

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Acute inhalation toxicity : LC50: > 88,8 mg/l
Method: No information available.

Acute dermal toxicity : LD50: > 5.000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

|| Not classified based on available information.

Product:

Result: No skin irritation
Effects of repeated or prolonged skin contacts may include:
Discomfort

Components:

Ammonium nitrate:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation

|| Not classified based on available information.

Product:

Method: OECD Test Guideline 405 & 437
Result: No eye irritation
Information given is based on tests on mixtures with similar compositions.

Components:

Ammonium nitrate:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritating to eyes.

Respiratory or skin sensitisation

|| Skin sensitisation: Not classified based on available information.
|| Respiratory sensitisation: Not classified based on available information.

Product:

Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.
Test substance: several

Components:

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Ammonium nitrate:

Species: Mouse

Method: OECD Test Guideline 429

Result: Does not cause skin sensitisation.

Test substance: Calcium ammonium nitrate

Read-across (Analogy)

Germ cell mutagenicity

|| Not classified based on available information.

Components:

Ammonium nitrate:

Genotoxicity in vitro

: Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Test substance: Ammonium calcium nitrate

: Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Test substance: Ammonium calcium nitrate

: Test Type: In vitro gene mutation study in mammalian cells

Method: OECD Test Guideline 476

Result: negative

Test substance: Potassium nitrate

Carcinogenicity

|| Not classified based on available information.

Components:

Ammonium nitrate:

Remarks: No significant adverse effects were reported

Reproductive toxicity

|| Not classified based on available information.

Components:

Ammonium nitrate:

Effects on fertility

: Species: Rat

NOAEL: > 1.500 mg/kg,

Method: OECD Test Guideline 422

Test substance: Potassium nitrate

STOT - single exposure

|| Not classified based on available information.

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Components:

Ammonium nitrate:

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

STOT - repeated exposure

|| Not classified based on available information.

Components:

Ammonium nitrate:

Species: Rat
NOAEL: 256 mg/kg
Application Route: Oral
Exposure time: 364 d
Method: OECD Test Guideline 453
Test substance: Ammonium sulphate

Species: Rat
NOAEL: 0,185 mg/l
Application Route: Inhalation
Exposure time: 14 d
Method: OECD Test Guideline 412
Test substance: Ammonium nitrate

Aspiration toxicity

|| Not classified based on available information.

Components:

Ammonium nitrate:

No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Ammonium nitrate:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 447 mg/l
Exposure time: 48 h
Test Type: Short term

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 490 mg/l
aquatic invertebrates Exposure time: 48 h
Test Type: Short term
Test substance: Potassium nitrate
Remarks: Fresh water

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- Toxicity to algae : EC50 : > 1.700 mg/l
Exposure time: 10 d
Test substance: Potassium nitrate
Remarks: Marine water
- Toxicity to bacteria : EC50 : > 1.000 mg/l
Exposure time: 180 min
Test Type: Respiration inhibition of activated sludge
Test substance: Sodium nitrate
Method: OECD Test Guideline 209
- Toxicity to fish (Chronic toxicity) : Remarks: study scientifically unjustified
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 555 mg/l
Exposure time: 7 d
Species: Bullia digitalis (prosobranch gastropod)

12.2 Persistence and degradability

Product:

- Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Components:

Ammonium nitrate:

- Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Product:

- Bioaccumulation : Remarks: Bioaccumulation not expected.

Components:

Ammonium nitrate:

- Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Product:

- Mobility : Remarks: Not expected to adsorb on soil.

Components:

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Ammonium nitrate:

- Mobility : Medium: Water
Remarks: completely soluble
- : Medium: Soil
Remarks: (NO₃-), Not expected to adsorb on soil.
- : Medium: Soil
Remarks: (NH₄+), After release, adsorbs onto soil.

12.5 Results of PBT and vPvB assessment

Product:

- Assessment : PBT and vPvB assessment: Not applicable. (inorganic).

Components:

Ammonium nitrate:

- Assessment : Not applicable. (inorganic).

12.6 Other adverse effects

Product:

- Additional ecological information : Remarks: Do not allow product to reach ground water, water bodies or sewage system.
Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters.

Components:

Ammonium nitrate:

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Can be landfilled or incinerated, when in compliance with local regulations.
Do not allow product to reach ground water, water bodies or sewage system.
Do not dispose of together with household waste.



European waste code:
06 10 99: wastes not otherwise specified

- Contaminated packaging : Empty remaining contents.
Dispose of in accordance with local regulations.

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SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : No specific instructions needed., Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Ammonium nitrate Restricted to professional users.

See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Category		Quantity 1	Quantity 2
2	Ammonium nitrate: fertilizer grade	1.250 t	5.000 t

Other regulations : Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors: Annex II

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Regulation (EC) No 2003/2003 relating to fertilizers

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.
(Ammonium nitrate)

SECTION 16: Other information

Full text of H-Statements

H272 : May intensify fire; oxidizer.
H319 : Causes serious eye irritation.

Full text of other abbreviations

Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids

Further information

Other information : Issued according to Regulation (EC) No 1907/2006, Annex II, and its amendments.
Changes since the last version are highlighted in the margin.
This version replaces all previous versions.

Issuer : Borealis, Group Product Stewardship / Mikaela Eriksson.

Sources of key data used to compile the Safety Data Sheet : Chemical Safety Report, Ammonium Nitrate. FARM REACH Consortium, 2015
EFMA / Fertilizers Europe Guidance documents

Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

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It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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