

TYPE DOCUMENT: Working document	Version
SAFETY DATA SHEET COMPLEX FERTILIZERS, NP/ NK/ NPK TYPE, NON DANGEROUS	0/22.12.2022
Code: FDS-BM-06-005-002	Original

According to EC Regulation no. 1907/2006 (REACH) / EC Regulation no. 1272/2008 // Regulation no. 2020/878.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

1.1. Product identifier

Name: COMPLEX FERTILIZERS NPK, NP OR NK TYPE
Other names: COMPLEX FERTILIZERS
Chemical formula: -
CAS number: -
EINECS number: -
ECHA reference number: for ammonium nitrate: 01-2119490981-27-0064
ammonium sulphate: 01-2119455044-46-0098
ammonium dihydrogenorthophosphate: 01-2119488166-29-0047
diammonium hydrogenorthophosphate: 01-2119490974-22-0044
potassium sulphate: 01-2119489441-34-0029
calcium carbonate: 01-2119486795-18-0070
calcium hydrogenorthophosphate: 01-2119490064-41-0017

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

Identified uses: chemical fertilizer
Uses advised against: none

1.3. Details concerning the supplier of the Safety Data Sheet

Producer:
Azomureș S.A.Tg.-Mureș, 300 Gheorghe Doja St., tel.0040-265 253 700, Romania
Fax: 0040-265 252 986, e-mail: office@azomures.com, www.azomures.com
e-mail (competent person responsible for the SDS): fds.azo@azomures.com

1.4. Emergency telephone number

The institution responsible with providing information in case of a health emergency is The National Institute for Public Health, Department for the International Sanitary Regulation and Toxicological Information.

Telephone: 0040-21.318.36.06, working hours: Monday – Friday from 8 a.m. to 3 p.m. (Romanian time).

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SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Complex fertilizers NPK, NP or NK type are inorganic, multi-constituent substances. These complex fertilizers NP/ NPK/ NK type, containing Ammonium nitrate, are classified on the basis of their composition, hazardous behavior and complemented by testing for the ability to undergo self-sustaining decomposition or for explosive properties.

According to the UN Manual of Tests and Criteria, if the ammonium nitrate content in the product is less than 70% and equal or more than 45%, the combustible substances content is less than 0.4% and the product is not capable of self-sustaining decomposition, the product is not classified.

This product meets the above criteria, so **it is not classified**.

Classification according to EC Regulation no. 1272/2008 (CLP)

The mentioned sorts are **not classified** according to Regulation no. 1272/2008 (CLP).

Human health hazard

This product is not dangerous if handled accordingly.

Ignition or explosion hazard

In a fire incident the fertilizer will decompose with the release of toxic gases.

2.2. Label elements

Labeling of the product is made according to (EC) 1009/2019 Regulations regarding fertilizers.

EU labeling

Product name: COMPLEX FERTILIZERS NPK, NP OR NK TYPE

Producer:

Azomureș S.A.Tg.-Mureș, str. Gheorghe Doja no. 300, tel. 0040-265 253 700, Romania

Fax: 0040-265 252 986, e-mail: office@azomures.com, www.azomures.com

Emergency telephone number: 0040-21.318.36.06, working hours: Monday-Friday from 8 a.m. to 3 p.m. (Romanian time)

The declared content for each nutrient : TOTAL NITROGEN (N), AMMONIACAL NITROGEN, NITRIC NITROGEN, TOTAL PHOSPHORUS PENTA OXIDE, WATER SOLUBLE PHOSPHORUS PENTA OXIDE, NEUTRAL AMMONIUM CITRATE SOLUBLE PHOSPHORUS PENTA OXIDE, SOLUBLE IN CITRIC ACID 2% PHOSPHORUS PENTA OXIDE, POTASSIUM OXIDE SOLUBLE IN WATER; as mass percents as integers.

The granulation

Instructions for use

Storage conditions

Net weight of the fertilizer

Production date

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CLP labeling

The sorts mentioned above are not classified according to Regulation (EC) no. 1272/2008 (CLP). Complex fertilizers NP/NPK type with nitrogen from ammonium nitrate, in a concentration higher than 16% w / w, which falls under Regulation 1148/2019 Annex I (see Annex 1 to the SDS), **will have on the label the mention:**

"Acquisition, possession or use by the general public is restricted"

Complex fertilizers NP/NPK type with nitrogen from ammonium nitrate, in a concentration less than 16% w / w, which does not fall under Regulation 1148/2019 Annex I (see Annex 2 to the SDS), **they do not have on the label this mention.**

2.3. Other hazards

Not known.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substance

The product must be considered: Multi-constituent Substance

Composition: ammonium nitrate - CAS: 6484-52-2
ammonium sulphate - CAS: 7783-20-2
calcium hydrogenorthophosphate - CAS: 7757-93-9
ammonium dihydrogenorthophosphate - CAS: 7722-76-1
diammonium hydrogenorthophosphate - CAS: 7783-28-0
potassium sulphate - CAS: 7778-80-5
calcium carbonate - CAS: 471-34-1
potassium chloride - CAS: 7447-40-7

Ammonium nitrate

CAS number: 6484-52-2

EINECS number: 299-347-8

IUPAC name: ammonium nitrate

Molecular formula: H₃N.HNO₃

SMILES notation: [NH₄⁺].[O⁻] [N⁺](=O)[O⁻]

Molecular weight range: 80.0434

ECHA reference number: 01- 2119490981- 27- 0064

Typical concentration: >= 32% - < =75% (w/w)

Chemical identification of impurities

Calcium phosphate - CAS number: 10103-46-5

EINECS number: 233-283-6

Typical concentration: depending on the sort

Concentration limit: >=0 - <=1% (w/w)

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Water - CAS number: 7732-18-5

EINECS number: 231-791-2

IUPAC name: water

Typical concentration: $\geq 0.15\%$ - $\leq 0.45\%$ (w/w)

Calcium fluoride - CAS number: 7789-75-5

EINECS number: 232-188-7

Typical concentration: depending on the sort

Concentration limit: ≥ 0 - $\leq 7\%$ (w/w)

The content of contaminants in complex fertilizers NP/NK/NPK type is below the limits established in the new regulation 1009/2019, Annex 1, Part II.

SECTION 4. FIRST AID MEASURES

4.1. Description of the first aid measures

4.1.1 First aid instructions are provided depending on the relevant exposure routes.

Skin contact: rinse the affected area with plenty of water. Remove contaminated clothing and shoes.

In case symptoms occur, seek medical advice.

Eye contact: rinse/irrigate eyes with plenty of water; if irritation persists, seek immediately medical advice.

Ingestion: in case of ingesting the product, rinse mouth with water (only if the victim is conscious).

Do not induce vomiting. In case symptoms occur, seek medical advice.

Inhalation: in case of inhaling the product, remove victim to fresh air. In case symptoms occur, seek medical advice.

4.1.2 Recommendations:

Remove the victim from the area contaminated with dust or gas, keep the victim at rest in a warm area, even in the absence of symptoms; administer oxygen, especially in case of blueness around the mouth; artificial respiration must be used only as a last resort, in case of prolonged exposure.

4.2. The most important symptoms and effects, acute as well as delayed

Keep under medical observation for at least 48 hours, in order to prevent the development of a pulmonary edema or methaemoglobinaemia.

4.3. Indications concerning any emergency medical assistance and necessary special treatments

Note for the attending doctor: methaemoglobinaemia

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SECTION 5. FIREFIGHTING MEASURES

5.1. Fire extinguishing means

Adequate extinguishing means

Small fires

The substance is not combustible. In case of a fire, use water extinguisher.

Large fires

The substance is not combustible. In case of a large fire, use plenty of water and water extinguisher.

Inadequate extinguishing means

Do not use chemicals or foam to extinguish the fire, use sand or soil for emerging fires, if there is no water source available.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

The product is not combustible, but there is an explosion risk when heating at high temperature (in confined spaces), especially in presence of incompatible materials (see chapter 10).

Hazardous decomposition products and combustion products

In case of fire, hazardous decomposition products may be generated, such as nitrogen oxides (NO, NO₂ etc.), ammonia (NH₃), etc.

Special procedures for fire extinguishing

Special measures are not necessary.

Wear adequate protection equipment. Use a self-contained breathing apparatus.

5.3. Advice for firefighters

Special procedures for fire extinguishing

Wear adequate protection equipment. Use a self-contained breathing apparatus.

Keep the doors and the windows open.

Avoid vapor inhalation.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non - emergency personnel

(a) Protective equipment

Use personal protection equipment.

Avoid dust formation.

(b) Keep away from heat and fire sources

(c) Emergency procedures

In case of great danger, the surrounding area must be evacuated.

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Avoid inhaling toxic fumes by standing up wind from the fire.

6.1.2. For the personnel involved in emergency situations

The personnel involved in emergency situations must wear dust resistant equipment, chemical aggression resistant boots and protection mask.

6.2. Precautions for the environment

Avoid contamination of the soil and surface water or groundwater.

In case of accidental contamination, inform the authorities.

6.3. Methods and material for fire insulation and for cleaning

Collect the product in special containers, marked as waste. Recycle if possible. Clean the contaminated area using a large quantity of water. In case the spilled substance reaches into watercourses, inform local authorities.

Do not remove the spilled product using sawdust or any other combustible material.

6.4. Reference to other sections

For individual protection see chapter 8.

For disposal consideration, see chapter 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1 Recommendations for safe handling

Use adequate ventilation.

Avoid contact with flame, combustible materials and ignition sources.

(a) Do not eat, drink or smoke in the working area. "NO SMOKING" signs are to be placed in the working area.

(b) Wash hands thoroughly after each use.

(c) Remove contaminated clothing and protection equipment before entering lunch areas.

7.2. Safe storage conditions, including possible incompatibilities

Store in a clean, dry, cold and well ventilated space.

Avoid copper/zinc containers. Use stainless steel, plastic or aluminium containers.

The product should be stored away from sources of heat and fire.

Not to be stored together with flammable or incompatible materials – see chapter 10.

Avoid contact with combustible and incompatible substances.

Smoking and open fire is forbidden in storage spaces.

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Stacking of bags should be made in such a way that any danger is avoided. Keep at least 1 m distance between the stacks.

Avoid unprotected storage in atmospheric conditions.

Avoid humidity.

7.3 Specific end use (s)

Specific end uses - chemical fertilizer.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

No data available.

8.2. Exposure control

8.2.1 Adequate technical controls

General measures at company level

Technical measures: avoid dust formation; provide a ventilation system, where necessary.

Organization of an information system for surveillance and intervention:

- Internal Emergency Plan (PUI).
- Evacuation action plan in emergency situations
- The defense plan in case of a specific emergency situation caused by earthquakes and/or landslides
- Action plan for safe road transport (PSTR).

Work safety and health training for Azomures employees, in all stages (upon hiring, at work, periodically, supplementary) and work safety and health instruction for the employees from the companies that perform services based on contract and for the persons that are on the platform with the employer's permission, related to:

- risk of professional injury and illness at the work place
- minimal requests of health and safety of work, stipulated by legal regulations applicable to the specific activity at the work place
- tasks and responsibilities of the employees
- usage of work equipment and individual protection equipment
- prevention and protection measures, action plan in case of danger
- giving first aid to the injured at the work place

8.2.2 Personal protection measures, such as personal protection equipment

Hygiene measures: do not eat, drink or smoke while handling the product. Wash hands after handling and before eating, smoking or using the toilet, as well as at the end of the working period.

(a) Respiratory protection:

Personal protection during production activities – dust protective mask

(b) Hand protection:

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Protective gloves (heat resistant).

(c) Eye protection:

Face protection equipment - tight safety goggles (plastic frame, polycarbonate lens) for chemical substances.

8.2.3 Environmental exposure control

Specific protective personal equipment.

Risk management measures for the environment

Avoid contamination of the soil and surface water or groundwater courses.

In case of accidental contamination, inform the authorities.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information concerning the main physical and chemical properties

- a) Physical state: granules
- b) Color: white-gray
- c) Odor: odorless

No.	Physical and chemical properties of the substance / mixture	Unit	Value for the substance /mixture	Remarks
d)	Melting/ freezing point	°C		Depending on the composition; it may decompose before melting
e)	Boiling point/ boiling temperature range	°C	>210	Decomposes before boiling
f)	Flammability	% vol		Nonflammable (based on molecular structure)
g)	Decomposition temperature	°C	>230	
h)	pH		>4.5	In solution of 100g/L
i)	Water solubility	g/L	>100	Partial soluble
j)	Partition coefficient n-octanol/water	Log Kow		Not necessary as the substance is inorganic.
k)	Vapor pressure	Pa	Negligible	At room temperature
l)	Bulk density	kg/m ³	950 -1150	
m)	Granulometry			Does not contain particles with an inhalable fraction (0% < 0.5mm).
n)	Explosive properties			Non explosive
o)	Oxidizing properties			It has oxidizing properties
p)	Surface tension			No surface activity (based on molecular structure).
r)	Dissociation constant			Testing is not necessary, as ammonium nitrate is a salt that completely dissociates in water.

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9.2. Additional information

9.2.1. Information with regard to physical hazard classes

The concentration of ammonium nitrate (higher concentration than 70%), also determines the classification according to Regulation no. 1272/2008 (CLP).

If the ammonium nitrate content of the product is less than 70% and greater than or equal to 45%, the content of combustible substances is less than 0,4% and the product is not capable of self-sustaining decomposition, the product is not classified.

Complex fertilizers of NPK, NP type with an ammonium nitrate (nitrate) content of less than 70% are not classified for transport and are not classified for oxidation properties.

This product meets the above criteria, so it is not classified.

9.2.2. Other safety characteristics

Complex fertilizers of NPK, NP type are classified on the basis of their composition, hazardous behaviour and complemented by testing for the ability to undergo self-sustaining decomposition (from the UN Recommendations on the Transport of Dangerous Goods, "Manual of Tests and Criteria", test S1), or for explosive properties.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous chemical reaction in normal condition of use.

10.2. Chemical stability

The product is stable in normal storage, handling and usage conditions.

In order to increase product stability, anti-caking agents are used.

10.3. Hazardous reactions potential

The product decomposes at high temperature (> 130°C). Avoid contact with strong acids and bases and with incompatible materials.

10.4. Conditions to avoid

The product decomposes when heated > 130°C. Avoid high temperature in confined spaces, (explosion risk). Avoid contact with incompatible materials. Avoid unprotected atmospheric storage at high temperature and/or humidity.

10.5. Incompatible materials

Reducing agents, strong acids and bases, metallic powders, combustible materials, chromates, zinc, copper and its alloys, chlorates, sulphur, nitrites.

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10.6. Hazardous decomposition products

Nitrogen oxides, ammonia.

SECTION 11. TOXICOLOGICAL INFORMATION

The information below are for ammonium nitrate, component of NP/NK/NPK type fertilizers.

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

The relevant hazard classes for which information is provided are:

- (a) Acute toxicity
- (b) Skin corrosion / irritation
- (c) Eye irritation / damage
- (d) Sensitization of the skin or the respiratory system
- (e) Mutagenicity germ cell
- (f) Carcinogenicity
- (g) Toxicity for reproduction
- (h) STOT (specific target organs toxicity) – unique exposure
- (i) STOT (specific target organs toxicity) – repeated exposure
- (j) Aspiration hazard

11.1.1 Information for each hazard class

- (a) Acute toxicity - oral LD50 > 2000 mg/kg bw
 - dermal LD50 > 5000 mg/kg bw
 - inhalation LC50 > 88.8 mg/l
 - other routes – no available information

Ammonium nitrate does not have to be classified for acute oral, dermal or inhalation toxicity as all LD50/LC50 tested values exceed the highest value used for classification according to CLP Regulation.

Repeated dose toxicity

Oral 28 days - NOAEL \geq 1500 mg/kg bw/d (with potassium nitrate)

52 weeks - 256 mg/kg bw/d (with ammonium sulphate)

Inhalation 2 weeks - NOAEL \geq 185 mg/m³ air

Dermal – no available studies

Value used for CSA (oral route): NOAEL: 256 mg/kg bw/d (with ammonium sulphate)

Value used for CSA (route: inhalation): NOAEC \geq 185 mg/m³ (2 weeks)

Based on available data, ammonium nitrate is not classified according to CLP Regulation for repeated dose toxicity.

(b) Skin corrosion/irritation

Ammonium nitrate does not cause skin irritations and is not corrosive.

(c) Serious eye damage / irritation

Ammonium nitrate is irritating for the eyes.

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(d) Sensitizing of the airways and skin

No available data on sensitization of the respiratory system.

Ammonium nitrate is not classified according to CLP Regulation for skin sensitization.

Value used for CSA: not sensitizing for the skin

Value used for CSA: not sensitizing for the respiratory system.

(e) Mutagenicity

Based on the results of in vivo and in vitro studies, ammonium nitrate is not considered genotoxic.

Value used for CSA: genetic toxicity: negative.

(f) Carcinogenicity

Not carcinogen (tests using ammonium sulphate).

(g) Toxicity for reproduction

Oral 28 days - NOAEL \geq 1500 mg/kg bw/d (with potassium nitrate)

Ammonium nitrate is not classified according to CLP Regulation with regard to reproduction and developmental toxicity.

(h) STOT (specific target organs toxicity) – unique exposure - conclusive but not sufficient for classification

(i) STOT (specific target organs toxicity) – repeated exposure - conclusive but not sufficient for classification

(j) Aspiration hazard - there is no data available

11.1.2 The data in this subsection apply to the ammonium nitrate in the form under which it is placed on the market – no data available.

11.1.3 The results of critical studies by route of exposure:

The acute toxicity after oral administration – the studies were conducted on rats and mice.

For rat: LD50: 2950 mg/kg – key study; experimental result

LD50: 2800 mg/kg, LD50: 2462 mg/kg, LD50: 4500 mg/kg supporting studies

For mouse: LD50: 2085 mg/kg – supporting studies; experimental result

The acute toxicity after administration by inhalation - the studies were conducted on rats.

LC50: $>$ 88,8 mg/L - supporting studies; experimental result

The acute toxicity after dermal administration - the studies were conducted on rats.

LD50: $>$ 5000 mg/kg

Ammonium nitrate must not be classified for acute oral toxicity, dermal and inhalation toxicity, because all the values used for the LD50/LC50 tests are more than the highest value that is used in the classification of the CLP Regulation.

11.1.4 For the following hazard classes: STOT – single exposure, STOT – repeated exposure, aspiration hazard – conclusive but not sufficient for classification.

11.1.5 Information on the likely routes of exposure

The likely routes of exposure are ingestion (swallowing), inhalation or skin / eyes exposure - there are no known health effects.

11.1.6 Symptoms related to the physical, chemical and toxicological characteristics

No data available.

11.1.7 The known delayed and immediate effects and the chronic effects of long term exposure and short term exposure

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The toxicological tests were made on rats, tests for skin irritation / eyes, the respiratory tract were made on rabbits.

There is no conclusive data on the effects of delayed or chronic of long term or short-term exposure.

11.1.8 Interactive effects

No data available.

11.1.9 Absence of specific data

No data available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Ammonium nitrate has no endocrine disrupting properties.

11.2.2. Other information

No data available.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

The information below are for ammonium nitrate, component of NP/NK/NPK type fertilizers.

Aquatic compartment (including sediments)

Toxicity data

The main toxic component in ammonium salts is ammonia. Recent assessments concerning ammonia toxicity show that both ionized and un-ionized forms are toxic.

For this reason a common toxicity model is proposed, in which ammonia is more toxic at elevated pH values and ammonium ion contributes to toxicity at lower pH values.

Short-term toxicity for fish

Values used for CSA: LC50 for static water fish: 447 mg/L (at 48 hours).

Long-term toxicity for fish

No data available.

Short-term toxicity for aquatic invertebrates

Values used for CSA: EC50/LC50 for fresh water invertebrates: 490 mg/L

Long-term toxicity for aquatic invertebrates

There are no available long-term studies for aquatic invertebrates.

Algae and aquatic plants

Value used for CSA: EC50/LC50 for fresh water algae: >1700 mg/L

NOEC for fresh water algae: 1700 mg/L

Sediment organisms

The chemical safety assessment does not indicate the need for a study concerning the effects on sediment organisms.

Other aquatic organisms

No available information.

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PNEC derivation - PNEC aqua (fresh water): 0.45 mg/L
 PNEC aqua (marine water): 0.045 mg/L
 PNEC aqua (intermittent releases): 4.5 mg/L
 PNEC in sediments - PNEC values for sediments should be calculated using the equilibrium partitioning method (EPM) in EUSES, by using the PNEC aqua and the log Kow. For inorganic substances the PNEC value cannot be derived.

Due to the low toxicity of ammonium nitrate for aquatic organisms and its regulation by different European/national laws, the hazard and environmental exposure assessment is not considered necessary.

Terrestrial compartment - studies scientifically unjustified.

Atmospheric compartment - no available data.

Microbiological activity in STP

Toxicity for aquatic micro-organisms

Value used for CSA: EC50/LC50 for aquatic micro-organisms: >1000 mg/L

NOEC aquatic micro-organisms: 180 mg/L

PNEC for STP: 18 mg/L

The Urban Wastewater Directive (1991) sets standards for the collection and treatment of wastewater from homes and some industrial sectors.

12.2. Persistence and degradability

The information below are for ammonium nitrate, component of NP/NK/NPK type fertilizers.

Abiotic degradability

Ammonium nitrate completely dissociates in water. No additional information is requested/available.

Biotic degradability

Studies are not necessary as the substance is inorganic. The biodegradation rate in wastewater treatment plants is of 52 g N/kg dissolved solid/day at 20 °C.

In the anaerobic transformation of nitrate into N₂, N₂O and NH₃, the biodegradation rate in wastewater plant at 20 °C is 70 g N/kg dissolved solid/day at 20 °C.

Hydrolysis - ammonium nitrate is completely dissociated into ions in water: NH₄⁺ and NO₃⁻. Therefore, testing is considered not necessary.

Photolysis - in air, water, soil - no available data

Biodegradation - inorganic substances are not biodegradable (based on chemical properties).

12.3. Potential for bioaccumulation

The information below are for ammonium nitrate, component of NP/NK/NPK type fertilizers.

The partition coefficient octanol - water (Kow): not relevant as the substance is inorganic, but it is considered low (based on high water solubility).

The bioconcentration factor (BCF) - low potential for bioaccumulation (based on substance's properties).

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12.4. Mobility in soil

The information below are for ammonium nitrate, component of NP/NK/NPK type fertilizers.

Adsorption/desorption

Adsorption coefficient - low potential for adsorption (based on substance's properties).

Volatilization - no available data.

Distribution modeling - no available data.

12.5. PBT and vPvB assessment results

In accordance with Annex XIII of the EC Regulation no. 1907/2006, PBT and vPvB assessments have not been conducted.

12.6. Endocrine disrupting properties

Ammonium nitrate has no endocrine disrupting properties.

12.7. Other adverse effects

There is no information concerning other adverse effects on the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal methods

Waste resulting from the product is non dangerous and must be disposed in compliance with national and local regulations. Controlled biodegradation in wastewater treatment is possible.

Waste code: 06 10 99 - other unspecified waste

Once emptied, the package becomes non dangerous waste which must be treated in compliance with national and local regulations.

SECTION 14. TRANSPORT INFORMATION

According to the UN Manual of Tests and Criteria (special provision for UN number 2071), if the ammonium nitrate content in the product is less than 70% and equal or more than 45%, the combustible substances content is less than 0.4% and the product is not capable of self-sustaining decomposition, the product is not considered dangerous by ADR, RID, IMO, IATA.

These types of NP/NPK/NK fertilizers meet the above criteria.

No danger label is placed on the transportation means.

14.1. UN number or ID number: not applicable (not dangerous)

14.2. UN name for dispatch: AMMONIUM NITRATE BASED FERTILIZER

14.3 Transportation hazard class (classes): not applicable (not dangerous)

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14.4. Special provisions:

For road (ADR)/railway (RID) transport: 193.

For maritime transport (IMDG/IMO): 193 (class C)

For air transport (IATA):

UN number or ID number: not applicable

UN name for dispatch: AMMONIUM NITRATE BASED FERTILIZER

Packing instruction:

- 958 for limited quantities of maximum 200 kg (total gross mass per package)
- Y 958 for limited quantities of maximum 30 kg G (total gross mass per package)

Special provisions:

- A90 for quantities of maximum 30 kg G (total gross mass per package)

14.5. Environmental hazards

Environmental hazards: not applicable (not dangerous)

14.6. Special precautions for users

It applies to solid ammonium nitrate based fertilizers with ≥ 45 – $< 70\%$ ammonium nitrate, with $< 0.4\%$ combustible substances, which are not capable of self-sustaining decomposition, according to UN Trough Test (see the UN Manual of Tests and Criteria, part III, section 39).

For air transport the marking of packages containing limited quantities up to a maximum of 30 kg total gross mass per package (according to ICAO technical instructions), shall be carried out by applying a square - shaped mark, set at an angle 45° (diamond - shaped). The top and bottom portions and the surrounding line shall be black, the central area shall be white. The minimum dimensions shall be 100 mm x 100 mm and the minimum width of the line forming the diamond shall be 2 mm (Fig. 1).



Fig.1 Mark for packages containing limited quantities

All transports will be accompanied by the transport documents appropriate for transported goods, according to the legislation in use.

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Each delivery is accompanied by a Quality Certificate. At the customer's request, the product is accompanied by a Test Report.

The tolerances are in accordance with the provisions of the European Regulation 1009/2019.

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/mixture

Relevant information regarding the domestic legislation

Law on labor security and health no. 319/2006, GD no.1425/2006 on approving the Methodological Norms for the enforcement of the provisions set by the Law on labor security and health no. 319/2006, GD no. 355/2007 on the surveillance of workers' health with subsequent modifications.

Law no. 265/2006 for the amendment of GEO no.195/2005 on environment protection

Decision no. 1391/2006 for the approval of the Regulation concerning the application of Government Emergency Ordinance no. 195/2002 regarding traffic on public roads, with subsequent amendments and supplements.

ISCIR technical prescriptions in use.

Law no. 278/2013 on industrial emissions.

Law no. 49/2018 on explosives precursors, as well as for amending and supplementing some normative acts.

Relevant information regarding the EU legislation

Regulation (EC) no. 1907/2006 of the European Parliament and of the Council regarding the Registration, evaluation authorization and restriction of chemicals (REACH), with subsequent modifications.

Regulation (EC) no. 1272/2008 of the European Parliament and of the Council on the classification, labeling and packaging of substances and mixtures, with subsequent modifications.

Regulation (EU) no. 286/2011 by the Commission from 10.03.2011 amending Regulation (EC) no. 1272/2008.

Regulation (EU) No. 2019/521 by the Commission from 27 March 2019 amending, for the purposes of its adaptation to technical and scientific progress Regulation (EC) No. 1272/2008.

Regulation (EC) No. 2020/878 of 18.06.2020 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the registration, evaluation and restriction of chemicals (REACH).

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013.

Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending

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Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003.

Delegated Regulation (EU) 2021/1768 of 23 June 2021 amending, for the purpose of adapting to technical progress, annexes I, II, III and IV to Regulation (EU) 2019/1009 of the European Parliament and of the Council establishing rules on making EU fertilizer products available on the market.

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), 2021 edition.

Regulation referring to the International Carriage of Dangerous Goods by Rail (RID), 2021 edition
 International Maritime Dangerous Goods (IMDG), 2020 edition.

Dangerous goods air transport regulations (IATA), edition 2020.

UN Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria, 3rd revised edition, United Nations, Geneva/New York, 1999.

Chemical Safety Report, Ammonium Nitrate. FARM REACH Consortium, 2019.

EFMA / Fertilizers Europe Guidance documents.

Emergency Ordinance 121/2022 regarding the establishment of measures to make some fertilizer products available on the market and for the amendment of Law no. 232/2010 regarding the import regime of fertilizer samples and fertilizers.

Other regulations

For complex fertilizers NP / NPK type with nitrogen from ammonium nitrate, in a concentration higher than 16% w / w, which falls under Regulation 1148/2019 Annex I (see Annex 1 to the SDS).

“Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point”.

For complex fertilizers NP / NPK type with nitrogen from ammonium nitrate, in a concentration less than 16% w / w, which does not fall under Regulation 1148/2019 Annex I (see Annex 2 to the SDS).

“This product is not regulated by Regulation (EU) 2019/1148, but all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point”.

15.2 Chemical safety assessment

Not applicable.

SECTION 16. ADDITIONAL INFORMATION

a) A clear evidence of added, deleted or modified information

Version number	Date	Page number	Evolution of the information
version 1	13.06.2017	2, 16	At page 2 and 16, section 2, chapter 2.1 and section 14, were introduced the NPK sorts 18-18-0+10SO ₃ +5MgO and 19-19-0+7SO ₃ +4MgO.

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Version 2	21.06.2017	2, 16	At page 2 and 16, section 2, chapter 2.1 and section 14, was introduced the NPK sort 14-8-20+17SO ₃
version 3	12.07.2017	2, 16	At page 2 and 16, section 2, chapter 2.1 and section 14, were introduced the NPK sorts 15-7-19, 14-8-20 and 13-9-19.
Version 4	17.07.2017	2, 16	At page 2 and 16, section 2, chapter 2.1 and section 14, were introduced the NPK sorts 22-6-12+3SO ₃ +0.05B+0.05Zn and 22-6-12+10SO ₃ +0.05B+0.05Zn
version 5	21.07.2017	2, 16	At page 2 and 16, section 2, chapter 2.1 and section 14, was introduced the NPK sort 12-11-18
version 6	10.11.2017	2, 17	At page 2 and 16, section 2, chapter 2.1 and section 14, was introduced the NPK sort 13-9-19+1MgO+0.02Zn+0.02B
version 7	13.03.2018	2, 18	At page 2 and 16, section 2, chapter 2.1 and section 14 the sorts have been removed.
version 8	15.10.2018	7	At page 7, section 7.2 has changed in accordance with current legislation.
version 9	12.04.2019	6, 16	At page 6, section 7.2 has been reformulated. At page 16, section 14 has changed in accordance with ADR 2019 edition.
version 10	25.06.2019	17	At page 17, section 15.1 "Other regulations" have been introduced.
version 11	02.07.2020	16, 17, 18	At page 16, section 14 air transport has been introduced and on page 17, section 14.6 the marking of packages containing limited quantities for air transport has been introduced. At page 18 completed with IATA regulations, 2020 edition.
Version 12 Changes marked with Italic	21.09.2020	2	2.1: text deleted; text introduced
		3	3.1: text deleted
		3	4.1: text deleted
		4	5.1: text introduced
		4	5.2: text introduced
		5	5.3: text deleted; text introduced
		5	6.1: text deleted; text introduced
		5	6.2: text introduced
		6	7.1: text introduced
		6	7.2: text introduced
		6-7	8.1: text deleted; text introduced
		7-9	8.2: text deleted; text introduced
		10	9.1: text deleted; text introduced
		10	10.1: text deleted; text introduced
		11	10.2: text deleted
11	10.3: text deleted; text introduced		
11	10.4: text introduced		
11	10.5: text introduced		

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		11	10.6: text deleted
		11	11: text deleted; text introduced
		13	12.1: text introduced
		14	12.2: text introduced
		15	12.3: text introduced
		15	12.4: text introduced
		15	12.5: text deleted
		15	13.1: text deleted; text introduced
		16	14: text deleted; text introduced
		16	14.1: text deleted; text introduced
		16	14.2: text deleted; text introduced
		16	14.3: text deleted; text introduced
		16	14.4: text deleted; text introduced
		16	14.5: text introduced
		16	14.6: text introduced
		16	14.7: text introduced
		17	14.5: text deleted
		17	14.6: text deleted
		17	14.7: text deleted
		18	15.1: text introduced
		18	15.2: text introduced
version 13 Changes marked with Italic	08.10.2020	1	1.1: text introduced
		13	14: text deleted; text introduced
version 14 Changes marked with Italic	29.01.2021	2, 8, 11, 15, 16	Change of the drafting framework annex. At page 2 section 2.2 changes due to legislation. At page 8 section 9.1 new physical properties have been introduced. At page 11 section 11.2 other hazards information was introduced. At page 15 and 16, section 15.1 new legislation has been introduced.
version 0	22.12.2022		Conversion to new format and new codification
		2, 3, 7, 15, 16	Information on labeling (page 2), contaminant content (page 4), text introduced at General measures at company level (page 7) and information on tolerances (page 15). On page 16, section 15.1 new legislation has been introduced.

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b) List of abbreviations and acronyms used throughout the Safety Data Sheet

- ACGIH - American Conference of Governmental Industrial Hygienists
- ADR - European Agreement referring to the International Carriage of Dangerous Goods by Road, 2021 edition
- b/w - body weight
- BCF - Bioconcentration factor
- CB - Combustible solids (bulk shipping code from IMDG)
- CSA - Chemical Safety Assessment
- CSR - Chemical Safety Report
- DMEL - Derived minimal effect level
- DNEL - Derived no effect level
- EC - European Commission
- EC50 - Concentration of toxic material for which 50% of the tested organisms survive
- ECETOC - European Center for Ecotoxicology and Toxicology of Chemicals
- ECHA - European Chemicals Agency
- (FE) EFMA - Fertilizers Europe (European Fertilizer Manufacturers Association)
- ES - Exposure Scenario
- ESIS - European Chemical Substances Information System
- EUSES - The European Union System for the Evaluation of Substances
- GESTIS - Information system on hazardous substances of the German Social Accident Insurance
- IATA - International Air Transport Association (Dangerous goods air transport regulations)
- IBC - International Code for the Construction Equipment of Ships Carrying Dangerous Chemicals in Bulk
- IMDG - Regulations referring to the maritime transportation of hazardous Substances, 2020 edition
- IPPC - Integrated pollution prevention and control
- ISCIR - State Inspection for the Control of Boilers, Under-Pressure Vessels and Lifting Devices
- LC50 - Lethal concentration for 50% of the tested population
- LD50 - Lethal dose for 50% of the tested population
- LEV - Local ventilation
- SDS - Safety Data Sheet
- MARPOL - International Convention for the Prevention of Pollution From Ships
- NA - Not applicable
- NOAEC - No Observed Adverse Effects Concentration
- NOAEL - No observed adverse effect level
- OACI (ICAO) - International Civil Aviation Organization (Technical Instructions)
- OMI - International Maritime Organization

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PBT	- Persistent, Bioaccumulative, Toxic
PNEC	- Predicted No Effect Concentration
REACH	- EC Regulation No. 1907/2006 of the European Parliament and Council concerning the registration, evaluation, authorization and restriction of chemical substances
RID	- Regulation referring to the International Carriage of Dangerous Goods by Rail (RID), 2021 edition
RMM	- Risk Management Measures
STOT	- Specific target organs of toxicity
STP	- Sewage Treatment Plant
UN	- United Nations
VPvB	- Very Persistent, very Bioaccumulative
w/w	- mass unit

c) Bibliography

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Studies according to the Chemical Safety Report

Guidance on safe use – The joint/individual ECHA Registration file for the substance

Official Journal of the European Union – EU Regulation no. 2020/878 of the European Council of 18.06.2020

EFMA - Guidance for the Compilation of Safety Data Sheets for Fertilizer Materials.

ESIS - European Chemical Substances Information System

Official Journal of the European Union – EC Regulation no. 1907/2006 of the European Parliament and Council concerning the registration, evaluation, authorization and restriction of chemical substances (REACH)

ADR - European Agreement referring to the International Carriage of Dangerous Goods by Road, 2021 edition

RID - Regulation referring to the International Carriage of Dangerous Goods by Rail (RID), 2021 edition

IMDG - Regulations referring to the maritime transportation of hazardous substances, 2020 edition

IATA - Dangerous goods air transport regulations, edition 2020

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Relevant hazard statements / Relevant precautionary phrases

For ammonium nitrate in the composition of NPK complex fertilizers of the sorts mentioned before relevant hazard statements:

H 272 – May intensify fire; oxidizer

H 319 – Causes serious eye irritation

Precautionary statements: Prevention

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

P220 – Keep/Store away from clothing/combustible materials (lubricants, Diesel fuel, oil, paints etc.)

P 264 – Wash hands thoroughly after handling

P 280 – Wear protective gloves (heat resistant)/protective clothing (powder resistant overalls)/tight safety goggles/ face mask/ hearing protection (earphones)

Intervention

P 370 + P 378 – In case of fire use plenty of water (flooding). Use dust or carbon dioxide extinguishers for cooling;

P 305+351+338 – If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P 337+ P313 – If irritation persists see the doctor.

Note:

The information included in this safety data sheet is based on the data available at the time of publication.

The client and the user assume all risks regarding usage, handling and storage of this product.

There are no guarantees for the product in case of improper handling, transport and storage of the product, not complying with the specifications of the Technical Specification and the Safety Data Sheet.