

Safety Data Sheet

According to Regulation (EU) No 830/2015 of the Commission

Issue date 28/02/2017

Issue 1

Review date

Review

Ammonium Nitrate fertilizer ≤70% AN

SECTION 1		Identification of the substance/mixture and of the company/undertaking			
1.1	Product identifier				
	Product commercial name	Calcium Ammonium Nitrate from 20 to 24,5% N, Calcium Ammonium Nitrate with Magnesium from 20 to 24,5% N, Calcium Ammonium Nitrate with Magnesium at 22% N + 5% MgO; Magnesium Nitride at 22% N + (5.5 to 7%) MgO; Ammonium nitrate from 20 to 24,5% N with sulphur (from calcium sulphate).			
	Chemical name	Mixture, main ingredient Ammonium Nitrate			
	Other names	CAN 20 to 24,5; CAN 20 to 24,5 with Mg; Magnesium Nitride; AN 20 to 24,5 with S (from calcium sulphate)			
	Chemical formula	Mixture, main ingredient NH ₄ NO ₃			
	EU index number (Appendix 1)	Not applicable			
	CE No	Not applicable			
	CAS No.	Not applicable			
	REACH or National product registration number	Not applicable			
1.2	Relevant identified uses of the substance or mixture and uses advised against				
	Identified uses	As a fertiliser and in the manufacture of mixtures.			
	Uses advised against	None			
1.3	Details of the supplier of the safety data sheet				
	Company name	FERTIBERIA. S.A.			
	Company address	Paseo de la Castellana, 259 D. Plantas 47 y 48 - 28046 Madrid			
	Company telephone number	Central: 91.586.62.00; Aviles factory: 985-57.78.50; Puertollano factory: 926.44.93.00; Sagunto Factory: 962.69.90.04			
	Company email for SDS	reachfertiberia@fertiberia.es			
1.4	Emergency telephone number	Aviles factory: 985-57.78.50; Puertollano factory: 926.44.93.00; Sagunto Factory: 962.69.90.04			
SECTION 2		Hazards identification			
2.1	Classification of the substance or mixture*	According to Regulation EC 1272/2008 [CLP] Non-hazardous.			
2.2	Label elements	Pictograms	Signal word	Hazard statements	Precautionary Statements
2.3	Other hazards				
	PBT/vBvP Criteria	In accordance with appendix XIII of the Regulation (EC) no. 1907/2006, it is not PBT or vPvB since it is an inorganic substance.			
	<u>Other hazards that do not involve product classification</u>				
	Physical and chemical hazards	This product is not itself combustible but if included in a fire it will maintain a sustained combustion even in the absence of air. When strongly heated it melts. If heating continues it can reach decomposition releasing toxic fumes that contain nitrogen and ammonium oxides. These products have a high resistance to detonation. Heating under strongly confined conditions may lead to an explosive reaction.			
	Health hazards	Fertilizers are basically harmless products when handled correctly. Nevertheless, the following points should be observed: Contact with skin and eyes: Prolonged contact may cause discomfort. Ingestion: Small quantities are unlikely to cause toxic effects. Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. Inhalation: High concentrations of dust in the air may cause nose and upper respiratory tract irritation with sore throat and cough symptoms. Long term local effects: No adverse effects are known. Other: Fire and heating: Inhaling decomposition gases containing nitrogen and ammonium oxides can cause irritation and have corrosive effects on the respiratory system. These gases may cause delayed pulmonary oedema.			
	Environmental hazards	Ammonium Nitrate is a nitrogen fertilizer. Heavy spillage may cause an adverse environmental impact such as eutrophication (developing undesirable flora) in confined surface waters or nitrate contamination. (See section 12).			
* To understand the full meaning of hazard statements (H): see section 16					

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SECTION 3 Composition/information on ingredients								
Mixtures	Name	% (w/w)	CAS No.	IUPAC	Index No R.1272/2008	REACH Registration Number	Classification Regulation 1272/2008	Specific concentration limits
	Ammonium nitrate	< 70%	6484-52-2	ammonium nitrate	----	01-2119490981-27-0028	Oxid. Solid 3 Eye Irrit. 2	
	Dolomite	>30%	16389-88-1			Not required	Not classified	
	Limestone		1317-65-3			Not required	Not classified	
	Calcium Sulphate dihydrate		13397-24-5			Not required	Not classified	
	Calcium Sulphate		7778-18-9			No require	No classifica	
	Magnesium Carbonate		546-93-0			Not required	Not classified	

SECTION 4 First aid measures											
4.1	Description of first aid measures										
	<table border="1"> <tr> <td>General</td> <td>Seek medical attention when necessary.</td> </tr> <tr> <td>Inhalation</td> <td>Remove the person from the point of exposure to the dust. Seek medical attention if there are any harmful effects.</td> </tr> <tr> <td>Ingestion</td> <td>Do not induce vomiting. Rinse the mouth and give water or milk to drink. Seek medical attention if more than a small quantity has been ingested.</td> </tr> <tr> <td>Contact with skin</td> <td>Wash the affected area with water.</td> </tr> <tr> <td>Contact with eyes</td> <td>Wash or rinse the eyes with plenty of water for at least 15 minutes, including behind the eyelids. Remove contact lenses if present and easy to do. Seek medical attention if eye irritation persists.</td> </tr> </table>	General	Seek medical attention when necessary.	Inhalation	Remove the person from the point of exposure to the dust. Seek medical attention if there are any harmful effects.	Ingestion	Do not induce vomiting. Rinse the mouth and give water or milk to drink. Seek medical attention if more than a small quantity has been ingested.	Contact with skin	Wash the affected area with water.	Contact with eyes	Wash or rinse the eyes with plenty of water for at least 15 minutes, including behind the eyelids. Remove contact lenses if present and easy to do. Seek medical attention if eye irritation persists.
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4.2	Most important symptoms and effects, both acute and delayed										
	Some effects on the lungs may be delayed.										
4.3	Indication of any immediate medical attention and special treatment needed										
	Inhalation of gases, from a fire or thermal decomposition, that contain nitrogen and ammonium oxides may cause irritation and have corrosive effects on the respiratory system. Administer oxygen, especially if there is blue colouring (methaemoglobin) around the mouth.										

SECTION 5 Firefighting measures					
5.1	Extinguishing media				
	<table border="1"> <tr> <td>Suitable extinguishing media</td> <td>Water.</td> </tr> <tr> <td>Unsuitable extinguishing media</td> <td>Do not use chemical or foam extinguishers or attempt to suffocate the fire with sand or mist.</td> </tr> </table>	Suitable extinguishing media	Water.	Unsuitable extinguishing media	Do not use chemical or foam extinguishers or attempt to suffocate the fire with sand or mist.
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5.2	Special hazards arising from the substance or mixture				
	<table border="1"> <tr> <td>Special hazards</td> <td>There is a potential explosion risk during the fire when the product is strongly confined and/or contaminated with incompatible materials (e.g. organic material, halogen compounds - see section 10) Prilled fertiliser must not be put in drains.</td> </tr> <tr> <td>Thermal decomposition or product combustion hazards</td> <td>Nitrogen and ammonium oxides</td> </tr> </table>	Special hazards	There is a potential explosion risk during the fire when the product is strongly confined and/or contaminated with incompatible materials (e.g. organic material, halogen compounds - see section 10) Prilled fertiliser must not be put in drains.	Thermal decomposition or product combustion hazards	Nitrogen and ammonium oxides
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Thermal decomposition or product combustion hazards	Nitrogen and ammonium oxides				
5.3	Advice for firefighters				
	<table border="1"> <tr> <td>Specific firefighting methods</td> <td>Open doors and windows in the area to give maximum ventilation. Avoid breathing the smoke (toxic). Position yourself upwind of the fire. Do not contaminate the fertiliser with oils or other combustible materials.</td> </tr> <tr> <td>Special protective equipment for firefighting</td> <td>Use self contained breathing apparatus in case of smoke.</td> </tr> </table>	Specific firefighting methods	Open doors and windows in the area to give maximum ventilation. Avoid breathing the smoke (toxic). Position yourself upwind of the fire. Do not contaminate the fertiliser with oils or other combustible materials.	Special protective equipment for firefighting	Use self contained breathing apparatus in case of smoke.
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SECTION 6 Accidental release measures	
6.1	Personal precautions, protective equipment and emergency procedures
	Avoid walking on the spilt product and exposure to the dust.
6.2	Environmental precautions
	Take care to prevent contamination of water courses and drains and inform the competent authorities in case of accidental contamination of water courses.
6.3	Methods and material for containment and cleaning up
	Any spillage of fertiliser should be quickly cleaned up, swept and placed in a clean, open receptacle and labelled for safe disposal avoiding the formation of dust. Do not mix with sawdust or other combustible or organic material. Dilute any contaminated or fine grain fertiliser with inert materials such as limestone/dolomite, mineral phosphate, gypsum, sand or dissolve in water.
6.4	Reference to other sections
	See section 1 for contact data, section 8 for PPE and section 13 for waste disposal.

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SECTION 7		Handling and storage
7.1	Precautions for safe handling	
		Prevent the excessive generation of dust. Prevent contamination with combustible materials (e.g. gas-oil, greases, etc.) and other incompatible materials. Avoid the unnecessary exposure of the product to the atmosphere to prevent moisture absorption. When the product is handled for long periods, use appropriate personal protective equipment, e.g. gloves. Carefully clean the installations before carrying out maintenance and repair operations.
7.2	Conditions for safe storage, including any incompatibilities	
		Store in compliance with RD 888/2006, (AF-1) regulations. Place away from sources of heat and flames. Always keep away from combustible materials and substances mentioned in section 10. In the field, ensure that the fertilizer is not stored near hay, straw, grain, gas-oil, etc. When stored in bulk, avoid mixing with other incompatible fertilizers. In the storage area, ensure that strict tidiness and cleanliness standards are complied with. Do not allow smoking or the use of naked portable lamps in the storage area. Restrict the size of piles and stacks (in accordance with regulations in force) and leave a minimum free space of 1 metre around the piles or stacks of sacks. Any building used for storage should be dry and well ventilated. When required, due to the nature of the product stored in containers and weather conditions, the product should be stored in such a way as to avoid its destruction due to thermal cycles (extreme temperature conditions). The product should not be stored in direct sunlight to prevent physical break-up due to thermal cycles.
	Recommended and non-recommended packaging materials	Suitable materials for containers are: steel, aluminium and synthetic plastics. Do not use copper and/or zinc.
7.3	Specific end uses	
		See section 1.2 and appendices for exposure scenarios.

Note: stability and reactivity, see section 10

SECTION 8		Exposure controls/personal protection						
8.1	Control parameters							
	Exposure limit values	Component	CAS					
		Ammonium nitrate	6484-52-2					
			Not established.					
	Derived from the CSR	systemic	Worker			consumer		
			industrial	professional				
		oral	long term	Not applicable	Not applicable	12.8 mg/kg bw/day		
		inhalation	long term	37.6 mg/m ³	37.6 mg/m ³	11.1 mg/m ³		
		dermal	long term	21.3 mg/Kg bw/day	21.3 mg/Kg bw/day	12.8 mg/kg bw/day		
	PNEC	water		air	soil	microbiological	sediment	oral
		fresh water: 0.45 mg/l salt water: 0.045 mg/l in intermittent releases: 4.5 mg/l		Not available	Insufficient data available	18 mg/l	Insufficient data available	Low bioaccumulative potential
8.2	Exposure controls							
	Engineering measures and hygiene controls	Prevent high concentrations of dust and provide ventilation wherever necessary. Do not smoke or drink when handling. Wash hands after handling the product and before eating, drinking or smoking. Use the wash basin at the end of the work day.						
	Personal protection measures							
	Eyes	Safety glasses with side shields (EN 166) to prevent eye irritation. In dusty conditions use panoramic safety goggles.						
	Skin and body	Work clothes.						
	Hands	Use suitable gloves (for example, rubber or leather) when handling the product over long periods of time. (EN-388, EN-420).						
	Respiratory	If there is a high concentration of dust and/or the ventilation is inadequate, use an anti-dust mask or respirator with a suitable filter. (EN-149)						
	Thermal							
	Environmental exposure controls	See section 6.						
	<i>Advice relating to personal protection is valid for high exposure levels.</i>							
	<i>Choose personal protection equipment suitable to exposure risks.</i>							

SECTION 9		Physical and chemical properties
9.1	Information on basic physical and chemical properties	
	Aspect	White or coloured granules or prills.
	Colour	White or coloured
	Odour	Odourless
	Molecular weight	Not applicable
	pH	pH aqueous solution (100 g/l) > 4.5.
	Boiling point	It does not have a boiling point, it decomposes above 210°C
	Melting point	169 °C
	Flash-point	Non flammable
	Flammability	Non flammable
	Explosive properties	If it is heated under strongly confined conditions (e.g. in pipes or drains) a violent reaction or explosion may take place, especially if there is contamination by any of the substances mentioned in section 10.
	Auto-ignition temperature	Non flammable
	Decomposition temperature	Begins to decompose above 170 °C
	Lower explosive limit	Not applicable
	Upper explosive limit	Not applicable

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	Oxidising properties	Not classified as oxidising.
	Apparent density at 20°C	950 at 1,100 kg/m ³
	Vapour pressure at 20 °C	Not applicable
	Vapour density	Not applicable
	Partition coefficient n-octanol/water	Not applicable
	Viscosity	Not applicable
	Water solubility	> 100 g/l (hygroscopic)
9.2	Other information	Molecular weight 80 g/mol for the main ingredient (ammonium nitrate)

SECTION 10		
Stability and reactivity		
10.1	Reactivity	Stable under normal conditions of storage, handling and use (see section 7)
10.2	Chemical stability	Stable under normal conditions of storage, handling and use (see section 7)
10.3	Possibility of hazardous reactions	When it is heated above 170°C it decomposes releasing NOx and Ammonia. Contamination with incompatible materials.
10.4	Conditions to avoid	Proximity to sources of heat or fire. Contamination by incompatible materials. Heating above 170 °C (decomposes to gases) Unnecessary exposure to the atmosphere. Heating when confined. Welding or heating work of the equipment or plant that may contain fertiliser remnants, without preliminary cleaning to remove the product remnants.
10.5	Incompatible materials	Inflammable materials, reducing agents, acids, alkalis, sulphur, chlorates, chlorides, chromates, nitrites, permanganate, metal powders and metal-containing substances such as copper, nickel, cobalt, zinc and their alloys.
10.6	Hazardous decomposition products	In case of fire: see Section 5 When strongly heated it melts and decomposes releasing toxic gases (e.g. NOx and ammonia). When it is in contact with alkaline materials, such as lime, ammonia gases may be produced.

SECTION 11						
Toxicological information						
11.1 Information on toxicological effects						
Acute toxicity						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 401 OECD 402	rat rat rat	oral skin respiratory	LD50: 2950 mg/Kg bw. LD50: > 5000 mg/Kg bw. LC50: >88.8 mg/m3.	
Skin corrosion/irritation						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 404	Rabbit	skin	Non-irritant.	
Serious eye damage/irritation						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 405	Rabbit	eye	Irritant	
Respiratory or skin sensitisation						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 429	mouse	skin	Non-sensitising.	
Germ cell mutagenicity;						
Component	CAS No.	Method	Species	Result		
Ammonium nitrate	6484-52-2	OECD 471 OECD 473 OECD 476	bacteria Chromosomal aberrations mutation in mammal cells	Negative. Non-mutagenic. Ames test. Negative. Non-mutagenic. Negative. Non-mutagenic.		
Carcinogenicity						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2		rat	All	Non carcinogenic.	
Reproductive toxicity						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 422	rat	oral	-Effects on fertility: NOAEL: ≥1500 mg/kg bw/d. -Toxicity for development: NOAEL: ≥1500 mg/kg bw/d	
STOT- single/repeated exposure						
Component	CAS No.	Method	Species	Via	Result	
Ammonium nitrate	6484-52-2	OECD 422 OECD 453	rat rat rat	oral (28 days) oral (52 weeks) oral (13 weeks) Inhalation (2 s)	Sub-acute oral route. NOAEL: ≥ 1500 mg/kg body weight/day. Chronic oral route. NOAEL: 256 mg/kg body weight/day. Sub-chronic oral route. NOAEL: 886 mg/kg body weight/day. Inhalation route. NOAEC (systemic): ≥ 185 mg/m3	
Aspiration hazard						
Significant effects or critical dangers are not known.						
Dust inhalation in high concentration may cause irritation of nose and to upper respiratory tract, with symptoms such as sore throat and cough.						

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SECTION 12		Ecological information						
12.1		Toxicity						
		Water toxicity						
	Component	CAS No.		Fish (Cyprinus carpio)	Crustaceans	Algae (benthic diatoms)		
	Ammonium nitrate	6484-52-2	Short term	LC50(48h) = 447 mg/l.	EC50/LC50 (48h) = 490 mg/l (of potassium nitrate) (Daphnia magna)	LC50/EC50 (10 days) > 1700 mg/l (of potassium nitrate)		
			Long term	Not necessary.	NOEC (168h) = 555 mg/l (Bullia digitalis)	Not available		
		Land Toxicity						
	Component	CAS No.	Macroorganisms	Microorganisms	Land plants	Other organisms		
	Ammonium nitrate	6484-52-2	Not scientifically justified	Not scientifically justified	Not scientifically justified	Not available		
		Microbiological activity in waste water treatment plants						
	Component	CAS No.	Toxicity for aquatic microorganisms					
	Ammonium nitrate	6484-52-2	CE50/CL50 (180 min) >1000 mg/l (of sodium nitrate)					
12.2		Persistence and degradability						
	Component	CAS No.	Degradation					
	Ammonium nitrate	6484-52-2	Hydrolysis	Non-hydrolysable. Test not necessary.				
			Photolysis	No information available				
			Biodegradation	Not necessary, inorganic substance.				
12.3		Bioaccumulative potential						
	Component	CAS No.	Octanol-water partition coefficient (Kow)	Bioconcentration factor (BCF)	Comments			
	Ammonium nitrate	6484-52-2	Not applicable. Inorganic substance.	-				
12.4		Mobility in soil						
	Component	CAS No.	Result					
	Ammonium nitrate	6484-52-2	low absorption potential (based on its properties)					
12.5		Results of PBT and vPvB assessment						
		Not required. Inorganic substance. See REACH appendix XIII.						
12.6		Other adverse effects						
		No more information.						
SECTION 13		Disposal considerations						
13.1		Waste treatment methods						
		Depending on the degree and nature of the contamination, it can be disposed of as a fertilizer over the ground, as raw material or disposed of in an authorised waste installation. Do not put the waste in the drain, dispose of the product waste and containers in a safe way. Dispose of in accordance with all local and national regulations. Empty containers by shaking them to remove as much as possible of their content. If approved by the local authorities, empty packaging can be disposed of as a non-hazardous material or returned for recycling.						
SECTION 14		Transport Information						
14.1 - 14.6	Regulatory Information	UN Number	Proper shipping name	Transport hazard class(es)	Packing group	Label	Environmental hazards	Special precautions for users
	ADR/RID ADNR IMDG IATA	NOT CLASSIFIED						
14.7		<i>Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable</i>						
SECTION 15		Regulatory information						
15.1		Safety, health and environmental regulations/ legislation specific for the substance or mixture						
		Regulation 2003/2003 (fertilisers) Regulation 1907/2006 (REACH). Entry 58 of appendix XVII. Regulation 1272/2008 (CLP) R.D. 506/2013 (fertilizers) R.D. 363/95 and R.D. 255/03: (Hazardous substances and preparations) R.D. 374/2001 (Chemical agents) RD. 888/2006, storage of ammonium-nitrate based fertilizers with a mass content less than or equal to 28%. (AF-1)						
15.2		Chemical safety assessment						
		Chemical Safety Assessment for the main ingredient, Ammonium Nitrate as a substance.						

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SECTION 16	Other information	
	Hazard statements	None
	Precautionary statements	None
	Bibliographical references and data sources	Ammonium nitrate chemical safety assessment; Guidance documents EFMA/FERTILIZER EUROPE; Data for TFI HPV; NOTOX Not classified as "eye irritant" based on negative results obtained in tests conducted by EFMA / FERTILIZER EUROPE.
	Abbreviations and acronyms	ELV-DE: Environmental limit value (daily exposure) ELV-ST: Environmental limit value (short term) NOAEL: No observable adverse effect level LD50: Lethal dose 50% LC50: Lethal concentration 50% EC50: Effective concentration 50% DNEL: Derived no effect level PNEC: Predicted no effect concentration LOEC: Lowest observed effect concentration NOEC: No observed effect concentration NOAEC: No observed adverse effect concentration
	Adequate training for workers	Obligatory training in occupational risk prevention
	Date of prior SDS	
	Modifications introduced in the current revision	
<p>The information contained in this Safety Data Sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information about the product at the time of publication. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risks as required by other health and safety legislation.</p>		