

Safety Data Sheet

In accordance with Commission Regulation (EU) No 2020/878



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Revision: 1

Calcium ammonium nitrate (CAN) / Ammonium nitrate

SECTION 1		Identification of the substance/mixture and of the company/undertaking
1.1	Product identifier	
	Trade name	Nitrolusal, Nitromagnésio, Fertijet, CAN, Nergetic DS+, Nergetic Dynamic M+, NERGETIC DS ZIMACTIV, AN 22+S, AN 27+S; AN 27+S+0,2%B, NITRAMON ADP 24S e NITRAMON ADP 27S
	Synonims	Calcium ammonium nitrate (CAN) / Ammonium nitrate
	Code	DS-014
	Chemical name	-
	Chemical formula	-
	Index Number	Not applicable.
	EINECS Number	Not applicable
	CAS Number	Not applicable.
	Registration Number	It is a mixture and therefore has no registration number.
	UFI	HT10-Y093-900V-Q6KU
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Application of the substance / the mixture	Fertiliser Mixture manufacture
	Uses advised against	Others than those indicated.
1.3	Details of the supplier of the safety data sheet	ADP Fertilizantes, S.A. Avenida Termo de Lisboa, 24-30, Salgados da Póvoa Apartado 88 2616-907 ALVERCA DO RIBATEJO PORTUGAL (00351) 210 300 400 e-mail: fdsinfo@fertiberia.com
1.4	Emergency telephone number	ADP – Fertilizantes, S.A., Lavradio - (00351) 210 300 700 (Only available during office hours; Monday-Friday; 09:00-18:00) GREECE: Poison control Centre: (0030) 2107793777 IRELAND: National Poisons Information Centre (+353) 01 809 2166 DENMARK: Giftlinjen (+45) 8212 1212 BULGARIA: National Toxicology Center, +359 2 9154 233

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SECTION 2	Hazards identification	
2.1	Classification of the substance or mixture according Regulation (EC) n° 1272/2008 (CLP)	Eye Irrit. 2 H319 Causes serious eye irritation.
2.2	Label elements	
	Hazard pictograms	
	Signal word	Warning
	Hazard-determining components of labelling	Not applicable.
	Hazard statements	H319 Causes serious eye irritation.
	Precautionary statements	P102 Keep out of reach of children. P270 Do not eat, drink or smoke when using this product. P264 Wash thoroughly after handling. P280 Wear eye protection / face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.
	Additional information	The product contains: Explosives precursors restricted to individuals. Verify the need for a licence for use. Regulation (EU) 2019/1148, Article 5(1) e (3).
	Supplemental information on the label	Not applicable.
	Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
	Special packaging requirements	Not applicable.
	Containers to be fitted with child-resistant fastenings	Not applicable.
	Tactile hazard warning	Not applicable.

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2.3	Other hazards						
	Other hazards which do	None known.					
	Results of the PBT and vPvB assessment	Not applicable. Not applicable.					
	Determination of endocrine disrupting	None substance listed.					
SECTION 3		Composition/information on ingredients					
3.1	Substances						
	Not applicable.						
3.2	Mixtures						
	Name	Index number	CE number	CAS number	Registration number	%(P/P)	Classification Regulation CE N^a 1272/2008
	Ammonium nitrate		229-347-8	6484-52-2	01-2119490981-27-XXXX	>45-<70%	Ox. Sol. 3 H272; Eye Irrit. 2 H319
	Calcium sulfate	-	231-900-3	7778-18-9	Exempt	>20%	Not classified
	Calcium carbonate	-	215-279-6	1317-65-3			Not classified
	Dolomite	-	240-440-2	16389-88-1			Not classified
	Magnesium carbonate	-	208-915-9	546-93-0			Not classified
	Additional indications		Fertilizers based on ammonium nitrate in accordance with the UN Manual of Tests and Criteria, part 3, section 39.				
SECTION 4		First aid measures					
4.1	Description of first aid measures						
	General information	Provide medical assistance to those affected. People who dispense first aid are advised to wear personal protective equipment. There may be delayed effects on exposure.					
	Inhalation	Remove from exposure. In severe cases, or if recovery is not rapid or complete, seek medical attention.					
	Ingestion	Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been ingested and the exposed person is conscious, give small amounts of water to drink. Stop if the exposed person feels unwell, as vomiting may be dangerous. Do not induce vomiting unless instructed to do so by medical personnel. If vomiting occurs, keep the head down so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Keep airway open. Loosen tight clothing, such as collar, tie, belt or waistband.					
	Skin contact	Rinse with plenty of water. Remove contaminated clothing and wash before reuse. If irritation persists, seek medical attention.					

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	Eye contact	Flush eyes with water for at least 15 minutes. Avoid the affected rub or close the eyes. In the case of the injured person uses contact lenses, they should be removed when they are not stuck in the eyes, otherwise further damage may occur. In all cases, after washing, seek medical advise as quickly as possible with the SDS of the product.
4.2	Most important symptoms and effects, both acute and delayed	
	Eye contact	Causes eye irritation. This irritation may cause redness and swelling of the eyes.
	Inhalation	No known significant effects or critical hazards.
	Skin contact	Skin irritation and skin sensitisation.
	Ingestion	For ammonium salts in general: symptoms of local irritation, nausea, vomiting, diarrhoea. Systemic effect: after ingestion of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic states, respiratory paralysis, haemolysis. Gastrointestinal disturbances, blood disorders, methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea and spasms, key symptom: cyanosis (blue colour of blood).
4.3	Indication of any immediate medical attention and special treatment needed	
	No action involving personal risk or without adequate training should be taken. Avoid direct mouth-to-mouth resuscitation, as it can be dangerous for the person providing the help. Use other methods for resuscitation, preferably oxygen or compressed air equipment. Treat according to the following indications:	
	Notes to physician	Treat symptomatically.
	Specific treatments	There is no specific treatment. It depends on specialized medical
SECTION 5		
	Firefighting measures	
5.1	Extinguishing media	
	The product is not flammable.	
	Suitable extinguishing agents	Fire-extinguishing powder Dry sand
	Unsuitable extinguishing agents for safety reasons	None.
5.2	Special hazards arising from the substance or mixture	
	Formation of toxic gases is possible during heating or in case of fire.	
	Hazardous thermal	Nitrogen oxides, nitrous gases, ammonia.
5.3	Advice for firefighters	
	Open warehouse doors and windows for maximum ventilation. Fire-fighting personnel should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face mask operating in positive pressure mode. Clothing for fire-fighting personnel (including helmets, protective boots and gloves) should conform to European standard EN 469 and gloves to EN 659. It should provide a basic level of protection for chemical incidents and should be fire resistant. The facility shall have sufficient protective equipment available to deal with fires.	

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SECTION 6		Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures	
	For non-emergency personnel	
	No action will be carried out that involves personal risk or without adequate training. Do not allow unnecessary or unprotected personnel to enter. Do not touch or walk on spilled material. Do not breathe spray mist. Provide adequate ventilation. Use an appropriate respirator when ventilation is inadequate. Use appropriate personal protective equipment (as indicated in section 8 of the safety data sheet). Follow local emergency procedures and instructions from installation personnel.	
	For emergency responders	
	If specialized clothing is required to treat the spill, note any information on suitable and unsuitable materials. See also the information in "For non-emergency personnel."	
6.2	Environmental precautions	
	In case of accidental spills and leaks avoid dispersal of spilled material, runoff and contact with soil, watercourses (surface and groundwater), drains and sewers. Inform the competent authorities if the product has caused adverse impacts (sewers, watercourses, soil or air).	
6.3	Methods and material for containment and cleaning up	
	In case of accidental spills and leaks, avoid dispersal of spilled material. Use water spray or foam to control vapors. Make a protective barrier and ensure closure of drains with suitable containment material. Absorb with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep and shovel into suitable containers for disposal.	
6.4	Reference to other sections	
	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.	
SECTION 7		Handling and storage
7.1	Precautions for safe handling	
	Technical precautionary measures	Wear appropriate personal protective equipment. Avoid contact with eyes, skin or clothing. Do not breathe mist. Do not ingest. Avoid release to the environment. Keep in original container or approved alternative made of a compatible material, kept tightly closed when not in use. Empty containers retain product residues and may be hazardous. Do not reuse container. Avoid handling incompatible substances, see section 7.2. and 10.
	Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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7.2	Conditions for safe storage, including any incompatibilities	
	<p>a) Dust generation must be reduced to the minimum possible.</p> <p>b) They shall be stored separated, by a physical barrier, from combustible materials (gas-oil, oils, grease, paper, etc.), reducing agents, acids, alkalis, sulphur, chlorates, chromates, nitrites, permanganates and metallic dust or substances containing metals such as copper, cobalt, nickel, zinc and their alloys. It shall also be kept away from stacks of hay, straw, grain, seeds and organic matter in general.</p> <p>(c) These fertilisers shall be stored in such a way as to ensure that there is no mixing between the different types in storage.</p> <p>(d) The height of stacks of product, both packaged and bulk, must be at least one metre below eaves, rafters, lighting points and electrical installations. electrical installations.</p> <p>(e) The use of naked portable lamps shall not be permitted.</p> <p>(f) The use of any heat source shall be prohibited unless properly authorised, supervised and controlled. Smoking shall be prohibited at all times.</p> <p>(g) Welding or cutting work shall be carried out on surfaces previously cleaned of fertiliser residues and sufficiently insulated from fertiliser.</p> <p>(h) Organic products shall not be used to clean the storage room floor.</p> <p>(i) Under no circumstances shall the arrangement of the stored product obstruct normal or emergency exits, or hinder access to safety equipment or areas.</p> <p>j) In enclosures intended for the storage of fertilisers, the handling of the product shall not be permitted, except for loading and unloading operations, physical mixing of the product or feeding to the bagging facilities.</p> <p>(k) Machinery involved in the handling of the product shall be fitted with spark chambers in the smoke exhaust pipe. Permanent heating or electrical installations must be designed in such a way that fertiliser can never come into contact with them. Consideration must be given to their location when the store is completely full. This applies to radiators, water or steam pipes as well as other heat sources, whether or not they are to be insulated.</p>	
7.3	Specific end use(s)	
	Use only as described in section 1.2.	
SECTION 8 Exposure controls/personal protection		
8.1	Control parameters	
	Occupational exposure limits	There is no limit of occupational exposure value for the mixture.
	Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of ventilation or other control measures and/or the need to use respiratory protective equipment. Monitoring standards such as the following may be used as reference: European Standard EN 689 (Atmospheres in the workplace. Guidelines for the evaluation of inhalation exposure of chemical agents for comparison with limit values and measurement strategy), European Standard EN 14042 (atmospheres in the workplace. Guidelines for the application and use of procedures to assess exposure to chemical and biological agents) European Standard EN 482 (atmospheres in the workplace. General requirements for the performance of procedures for measuring chemical agents). National guidance documents on methods for the determination of hazardous substances should also be used as a reference.
	Derived effect levels	No DELs available.
	Predicted effect concentrations	No PECs available.

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Ingredients with limit values that require monitoring at the workplace

CAS: 471-34-1 (Calcium carbonate) TWA (ITALY): Long-term value: (10) mg/m³
 CAS: 7778-18-9 (Calcium sulphate) TWA (GREECE): Long-term value: 10*5** mg/m³ ; TWA (ITALY): Long-term value: 10 mg/m³; GS (BULGARIA): Long-term value: 10 mg/m³; OEL (IRELAND): Long-term value: 10 mg/m³
 CAS: 546-93-0 (Magnesium carbonate) TWA (ITALY): Long-term value: (10) mg/m³ ; OEL (IRELAND): Long-term value: 10*4** mg/m³
 *inhalable dust **respirable dust

DNEL

Substance				6484-52-2	
				Ammonium nitrate	
Industrial/Professional worker	Inhalation (mg/m3)	Long-term	Systemic	36 mg/m3	
			Local	No hazard has been identified	
		Short-term	Systemic	Hazards are unknown but no further information is needed as no exposure to the substance is expected to occur	
			Local	Hazards are unknown but no further information is needed as no exposure to the substance is expected to occur	
	Dermal (mg/kg pc/día)	Long-term	Systemic	5,12 mg/kg bw/d	
			Local	No hazard has been identified	
		Short-term	Systemic	No hazard has been identified	
			Local	No hazard has been identified	
	Ocular (mg/kg pc/día)	Long-term	Systemic	Low risk (no threshold was derived)	
			Local	Low risk (no threshold was derived)	
		Short-term	Systemic	Low risk (no threshold was derived)	
			Local	Low risk (no threshold was derived)	
	Inhalation (mg/m3)	Long-term	Systemic	8,9 mg/m3	
			Local	No hazard has been identified	
		Short-term	Systemic	No hazard has been identified	
			Local	No hazard has been identified	
Dermal (mg/kg)		Long-term	Systemic	2,56 mg/kg bw/d	
			Local	No hazard has been identified	

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Consumer	pc/day)	Short-term	Systemic	No hazard has been identified	
			Local	No hazard has been identified	
	Oral (mg/kg pc/day)	Long-term	Systemic	2,56 mg/kg bw/d	
			Local	No hazard has been identified	
		Short-term	Systemic	No hazard has been identified	
			Local	No hazard has been identified	
	Ocular (mg/kg pc/day)	Long-term	Systemic	Not available	
			Local	Not available	
		Short-term	Systemic	Low risk (no threshold was derived)	
			Local	Low risk (no threshold was derived)	
	PNEC				
	Substance			6484-52-2	
				Ammonium nitrate	
	Fresh water (mg/L)			No hazard has been identified	
Salt water (mg/L)			No hazard has been identified		
STP (mg/L)			18 mg/L		
Fresh water sediment (mg/L)			No hazard has been identified		
Salt water sediment (mg/L)			No hazard has been identified		
Air (mg/L)			No hazard has been identified		
Soil (mg/L)			No hazard has been identified		
Predators (secondary poisoning) (mg/L)			The substance has no bioaccumulation potential		
Components with biological limit values		Non-existent.			
Additional indications		The Occupational exposure limits lists valid during the making were used as basis.			

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8.2	Exposure controls		
	Appropriate engineering controls	<p>As a general rule, access shall be prohibited to unauthorised personnel. The prohibition shall be posted on a clearly visible and legible sign.</p> <p>Ventilation. Storerooms and loading and unloading or transfer facilities shall be designed with natural or forced ventilation so that the risk of exposure of workers is adequately controlled. For this purpose, the design shall take special account of the characteristics of the vapours to which they may be exposed and of the source of the emissions, their collection at source and their possible transmission to the environment of the storage or installation. Where they are located inside buildings, ventilation shall be channelled to a safe place outside through dedicated ducts, taking into account the permissible emission levels to the atmosphere. Where forced ventilation is used, it shall be provided with an alarm system in case of failure.</p> <p>Premises with pits or basements where vapours may accumulate shall have adequate forced ventilation in such pits or basements to prevent the accumulation of vapours.</p>	
	Personal protective measures, such as personal protective equipment	General protection and hygiene measures	<p>Wash completely the hands, forearms and face after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.</p> <p>Use the appropriate techniques to remove the contaminated clothes. Wash the contaminated clothes before reusing. Verify that the eyes washing stations and safety showers were near to working stations.</p>
		Respiratory protection	If exposure levels exceed or may exceed the recommended exposure limits, use suitable breathing apparatus e.g. mouth-face masks equipped with FFP2 or FFP3 filters.
		Hand protection	Chemical protective gloves According to standards: EN 374-1:2003 - EN 374-3:2003/AC:2006 - EN 420: 2003+A1:2009. Replace gloves at any sign of deterioration.
		Glove material	PVC (polyvinyl chloride) gloves or other material that is identified as appropriate to the characteristics of the product.
		Other	Use personal protective equipment during use and handling of the product.
		Eye/face protection	Wear safety glasses when there is potential for contact. The use of a full face shield is also recommended for additional protection. See protection standard EN 166 for more information. There must be safety showers and eyewash fountains in the area where the product is handled.
		Thermal hazards	Not applicable due to the physico-chemical characteristics of the product.
	Environmental exposure controls	General ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.	
SECTION 9			
	Physical and chemical properties		
9.1	Information on basic physical and chemical properties		
	Physical state	Solid	
	Colour	White	
	Odour	Odourless	
	Melting point/freezing point	170 ° C	
	Initial boiling point and	210 ° C	

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	Flammability	Contact with combustible material may cause fire.
	Upper/lower flammability or explosive limits	
	Lower	Not available.
	Upper	Not available.
	Flash point	Not applicable due to physico-chemical characteristics
	Auto-ignition	Not applicable due to physico-chemical characteristics
	Decomposition temperature	>210 ° C
	pH	4.5(10%)
	Viscosity	
	Kinematic	Not applicable due to physico-chemical characteristics
	Dynamic	Not applicable due to physico-chemical characteristics
	Solubility	
	In water	at 20 ° C 1183 g/l
	Partition coefficient: n-octanol/water	Not applicable due to physico-chemical characteristics
	Vapour pressure	Not applicable due to physico-chemical characteristics
	Density and/or relative density	at 20 ° C 1.72
	Relative vapour density	Not applicable due to physico-chemical characteristics
	Particle characteristics	
9.2	Other information	
	Appearance	Granulate
	Explosives properties	Not explosive
	Oxidizing properties	Non-oxidant; Non-explosive; Source: UN Manual of Tests and Criteria; section 39.
	Information with regard to physical hazard classes	
	Explosives	Not applicable due to physico-chemical characteristics.
	Flammable gases	Not applicable due to physico-chemical characteristics.
	Aerosols	Not applicable due to physico-chemical characteristics.
	Oxidising gases	Not applicable due to physico-chemical characteristics.
	Gases under pressure	Not applicable due to physico-chemical characteristics.
	Flammable liquids	Not applicable due to physico-chemical characteristics.
	Flammable solids	Not applicable due to physico-chemical characteristics.
	Pyrophobic liquids	Not applicable due to physico-chemical characteristics.
	Pyrophobic solids	Not applicable due to physico-chemical characteristics.
	Self-reactive substances and mixtures	Not applicable due to physico-chemical characteristics.

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	Substances and mixtures, which emit flammable gases in contact with water	Not applicable due to physico-chemical characteristics.
	Oxidising liquids	Not applicable due to physico-chemical characteristics.
	Oxidizing solids	Not applicable due to physico-chemical characteristics.
	Organic peroxides	Not applicable due to physico-chemical characteristics.
	Corrosive to metals	Not applicable due to physico-chemical characteristics.
	Desensitised explosives	Not applicable due to physico-chemical characteristics.
	Other safety characteristics	
	Mechanical sensitivity	Not applicable due to physico-chemical characteristics.
	Self-accelerating polymerisation temperature	Not applicable due to physico-chemical characteristics.
	Formation of explosible dust/air mixtures	Not applicable due to physico-chemical characteristics.
	Acid/alkaline reserve	Not applicable due to physico-chemical characteristics.
	Evaporation rate	Not applicable due to physico-chemical characteristics.
	Miscibility	Not applicable due to physico-chemical characteristics.
	Conductivity	Not applicable due to physico-chemical characteristics.
	Corrosiveness	Not applicable due to physico-chemical characteristics.
	Gas group	Not applicable due to physico-chemical characteristics.
	Redox potential	Not applicable due to physico-chemical characteristics.
	Radical formation potential	Not applicable due to physico-chemical characteristics.
	Photocatalytic properties	Not applicable due to physico-chemical characteristics.
SECTION 10	Stability and reactivity	
10.1	Reactivity	Stable under recommended storage conditions.
10.2	Chemical stability	Chemically stable under the indicated storage, handling and use conditions.
10.3	Possibility of hazardous reactions	When heated above 170°C it decomposes giving off Nox, Ammonia and SO2. Contamination with incompatible materials.
10.4	Conditions to avoid	Strong heating (decomposition).
10.5	Incompatible materials	Metals, Mild steel. Reducing agents, powdered metals, strong acids, strong oxidizing agents.
10.6	Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), ammonia and SO2.

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SECTION 11	Toxicological information				
11.1	Information on toxicological effects				
Acute toxicity					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	Not specified	Rat Mouse	Oral Subcutaneous Intravenous	DL50 = 14,3-15 g/kg bw (Rat) 11,5-13 g/kg bw (Mouse) DL50 = 8,2-9,4 g/kg bw (Rat) 9,2-10,7 g/kg bw (Mouse) DL50 = 5,3-5,4 g/kg bw (Rat) 4,6-5,2 g/kg bw (Mouse)
Based on available data, the classification criteria are not met.					
Skin corrosion/irritation					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	OECD 404	Rabbit	Cutaneous	Non irritant
Based on available data, the classification criteria are not met.					
Serious eye damage/irritation					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	OECD 405	Rabbit	Ocular	Slightly irritant
Causes serious eye irritation.					
Respiratory or skin sensitisation					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	-	-	-	There are no available studies
Based on available data, the classification criteria are not met.					
Germ cell mutagenicity					
Component	CAS number	Method	Species	Result	
Ammonium nitrate	6484-52-2	OECD 473 OECD 476	Bacteria Cromosomal aberration Mutation of mammal cells	Non mutagenic	
Based on available data, the classification criteria are not met.					
Carcinogenicity					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	NCI - screening tests	Rat Mouse	Oral	There is no evidence that the substance is carcinogenic.
Based on available data, the classification criteria are not met.					
Reproductive toxicity					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	Not specified	Rat	Oral	Data conclusive but not sufficient for classification. -Effects on fertility : There are no effects on fertility . -Toxicity for the development: NOAEL > 1000 mg urea/kg bw/d. Exposure to urea is highly unlikely to have negative developmental effects.

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

STOT- single exposure

Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	Not available	Not available	Not available	Not available

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

STOT-repeated exposure

Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	Not specified	Rat Mouse	Oral	NOAEL: 2250 mg/kg bw/d (Rat) NOAEL: 6750 mg/kg bw/d (Mouse) It is concluded that urea has a very low chronic toxicity.

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

Aspiration hazard

Component	CAS number	Result
Ammonium nitrate	6484-52-2	No significant effects or critical hazards are known..

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

11.2 Information on other hazards

Endocrine disruptive properties

Not available

Other information

Not available

SECTION 12 Ecological information

12.1 Toxicity

Aquatic toxicity

Component	N° CAS		Fish	Crustacea	Algae
Ammonium nitrate	6484-52-2	Short term	CL50 (48h): 447 mg/L (Cyrpinus)	Not necessary	CE50 (48h): 490 mg/L
		Long term	CE50 (7d): 555 mg/L	CE50: 1700 mg/l	NOEC/CE10: 1700 mg/L

Terrestrial toxicity

Component	N° CAS	Macro-organism	Micro-organism	Terrestrial plants	Other organisms
Ammonium nitrate	6484-52-2	Not available	Not available	Not available	-

Microbiological activity in wastewater treatment plants

Component	N° CAS	Toxicity to aquatic micro-organisms
Ammonium nitrate	6484-52-2	CE50: 1000 mg/l CE10/NOEC: 180 mg/l

12.2 Persistence and degradability

Component	N° CAS	Degradation
Ammonium nitrate	6484-52-2	Hydrolysis
		Hydrolysis is not seen. It is not necessary.
		Photolysis
		Not necessary
		Biodegradation
		Not necessary

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12.3 Bioaccumulative potential					
	Component	N° CAS	Octanol-water partition coefficient (K _{ow})	Bioaccumulation factor (BEC)	Observations
	Ammonium nitrate	6484-52-2	Not applicable. Inorganic substance.	-	-
12.4 Mobility in soil					
	Component	N° CAS	Result		
	Ammonium nitrate	6484-52-2	Being an inorganic substance it has a low adsorption potential.		
12.5 Results of PBT and vPvB assessment					
Not applicable.					
12.6 Propiedades de alteración endocrina					
El producto no contiene sustancias con propiedades disruptoras endocrinas.					
12.7 Otros efectos adversos					
No se conocen efectos significativos o riesgos críticos.					
SECTION 13 Disposal considerations					
13.1 Waste treatment methods					
Methods of disposal		<p>Waste management (disposal and recovery): Consult the authorised waste manager for recovery and disposal operations, in accordance with Annex 1 and Annex 2 (Directive 2018/851/EC).</p> <p>Packaging: According to codes 15 01 (Commission Decision 2014/955/EU), if the packaging has been in direct contact with the product, it should be treated in the same way as the product itself, otherwise it should be treated as non-hazardous waste. Discharge into waste water is not recommended. See section 6.2.</p> <p>Waste management provisions: In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), the Community or national provisions on waste management are presented. Community legislation: Directive 2018/851/EC, Commission Decision 2014/955/EU, Regulation (EU) no. 1357/2014 and the national legislation.</p>			
Hazardous waste code		HP4: Irritant - skin irritation and eye damage			
SECTION 14 Transport information					
	Regulatory information	ADR/RID	ADNR	IMDG	IATA
		Not classified as hazardous according to the Manual of Tests and Criteria, Part III, Section 39			
14.1	UN number	-			
14.2	UN proper shipping name	-		-	
14.3	Transport hazard class(es)				
	Class	-		-	
	Label	Not applicable		Not applicable	

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14.4	Packing group	-	
14.5	Environmental hazards	Product not classified as hazardous to the aquatic environment.	
14.6	Special precautions for user	Not defined. See the relevant information, such as handling, in other sections of this document.	
14.7	Maritime transport in bulk according to IMO instruments	AN 45-70% and chlorides <2%	AN 45-70% and chlorides >2%
	IMSBC/IMSBC Code	Amendments (07-23)	Amendments (07-23)
	Bulk cargo shipping name	AMMONIUM NITRATE BASED FERTILIZER	AMMONIUM NITRATE BASED FERTILIZER
	Harmful to the marine environment (HME)	No	No
	Class	Not applicable	Not applicable
	Material hazardous only in bulk (MHB)	Not applicable	OH - Other Hazards
	Cargo group	C	B
	Size	1 mm to 5 mm	1 mm to 5 mm
	Angle of repose	27° to 42°	27° to 42°
	Bulk density (kg/m³)	1000 to 1200	1000 to 1200
Stowage factor (m³/t)	0,83 to 1,00	0,83 to 1,00	
SECTION 15 Regulatory information			
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture		
	Regulation (EC) No 1907/2006 (REACH)	This product complies with the REACH Regulation.	

Calcium ammonium nitrate (CAN) / Ammonium nitrate

	SEVESO Category	The mixtures covered by this safety data sheet are not classified by SEVESO, except the following mixtures: Ammonium Nitrate with Calcium Sulphate with a nitrogen content greater than 24.5% (trade name NITRAMON ADP 27 and with the trade name AN 27+S+0 .2%B and AN 27+S)
	Qualifying quantity (tonnes) for the application of lower-tier requirements	1.250 t
	Qualifying quantity (tonnes) for the application of upper-tier requirements	5.000 t
	Named dangerous substances - ANNEX VI (CLP)	None substance listed.
	Regulation (EC) No 1907/2006 - ANNEX XVII	Not applicable.
	REGULATION (EU) 2019/1148	
	Annex I - Restricted Explosives Precursors (Upper limit value for licensing purposes under Article 5(3))	CAS: 6484-52-2 ammonium nitrate: Limit value: >45.7 %, No licensing allowed
	Annex II - Reportable Explosives Precursors	None substance listed.
	Regulation (EC) No 273/2004 on Drug Precursors	None substance listed.
	Regulation (EC) No 111/2005 laying down rules for the monitoring and trade in drug precursors between the Community and third countries.	None substance listed.
	Regulation (UE) 2019/1009	This product complies with the Fertilizer Regulation.
	Regulation (EC) No. 1272/2008 (CLP)	This product complies with the CLP Regulation.
	Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.	Not applicable.
	Regulation (EC) No 649/2012 concerning the export and import of dangerous chemicals.	Not applicable.
	PBT/mPmB Evaluation	Not applicable.
15.2	Chemical safety assessment	
	A chemical safety assessment has been carried out and exposure scenarios are annexed to this sheet.	
SECTION 16	Other information	
	Relevant phrases	H272 May aggravate fire; oxidising. H319 Causes serious eye irritation.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

	Abbreviations and acronyms	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road). STP: Sewage treatment plant. OECD: Organisation for Economic Co-operation and Development. NOAEL: No observed adverse effect level.. IMDG: International Maritime Code for Dangerous Goods. IATA: International Air Transport Association. GHS: Globally Harmonised System of Classification and Labelling of Chemicals. CAS: Chemical Abstracts Service (division of the American Chemical Society). DNEL: Derived No-Effect Level (REACH). PNEC: Predicted No-Effect Concentration (REACH).
	Data compared to the previous version altered	Adaptation to Regulation (EU) No 2020/878. Modification of exposure scenarios according to update of the chemical safety report. Correction of errors in the sections 13, 14 and 15. New data on the SDS supplier. Modification in the concentration ranges of ammonium nitrate. Inclusion of new information in section 14.7. Modification of section 3.2 due to typographical errors.
	References	This safety data sheet has been prepared in accordance with: - ANNEX II: Guidance for the preparation of Safety Data Sheets of Regulation (EC) No 1907/2006 (Regulation (EU) 2015/830) based on the data included in the chemical safety report of registered substances. - Guidance available on the European Chemicals Agency (ECHA) website: (http://echa.europa.eu/). - Guidance for the compilation of safety data sheets for fertilizer materials (www.fertilizerseurope.com).
	Methods used for the classification of the mixture (Article 9 of Regulation (EC) No 1272/2008)	Classification and Labeling in accordance with the principle of extrapolation of Regulation No. 1272/2008 (CLP).
	Advice on any training appropriate for workers to ensure protection of human health and the environment	Minimum training in the prevention of occupational hazards is recommended for personnel who will handle this product, in order to facilitate the understanding and interpretation of this safety data sheet, as well as the product label.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

The information contained in this safety data sheet is provided in good faith and its accuracy is based on knowledge of the product at the time of publication. The information presented is only intended to describe the product from the point of view of human and environmental protection and safety, and therefore cannot be regarded as product specifications. It does not imply acceptance of any commitment or legal responsibility on the part of the Company, for the consequences of its use or misuse in any circumstances. The information provided is considered accurate and current at the time of this edition, referring only to the product and may not be valid in compositions or formulations with other products. The responsibility for its use belongs to the users.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Exposure Scenarios



Ammonium Nitrate

ES 1: Formulation - Formulation of chemicals and fertilizers

1. Title section

ES name: *Formulation - Formulation of chemicals and fertilizers*

Environment

Formulation of chemicals and fertilizers	ERC 2; ERC 3
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Worker

Use in closed, continuous process with occasional controlled exposure	PROC 2
Use in closed batch process (synthesis or formulation)	PROC 3
Use in batch and other process (synthesis) where opportunity for exposure arises	PROC 4
Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	PROC 5
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	PROC 8a
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	PROC 8b
Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	PROC 9
Treatment of articles by dipping and pouring	PROC 13
Production of preparations or articles by tableting, compression, extrusion, palletisation	PROC 14
Use as laboratory reagent	PROC 15

2. Conditions of use affecting exposure

2.1. Control of environmental exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

Calcium ammonium nitrate (CAN) / Ammonium nitrate

2.2. Control of worker exposure

PROCs	2	3	4	5	8a/8b	9	13	14	15
Product (Article) characteristics									
Concentration of substance in mixture:	≤ 100% (solid)								
Concentration of substance (used for exposure estimates):	Substance as such								
Dustiness of material:	Low								
Amount used (or contained in articles), frequency and duration of use/exposure									
Duration of activity:	< 8 hours								
Technical and organisational conditions and measures									
General ventilation:	Basic general ventilation (1-3 air changes per hour)								
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]								
Containment:	Closed continuous process with occasional controlled exposure	Closed batch process with occasional controlled exposure	Semi-closed process with occasional controlled exposure	No					
Occupational Health and Safety Management System:	Advanced								
Conditions and measures related to personal protection, hygiene and health evaluation									
General:	Work under a high standard of personal hygiene. Wash hands and face before breaks. When using the product, do not eat, drink or smoke.								
Dermal Protection:	Yes (long sleeved overall; chemically resistant gloves conforming to EN374 with basic employee training) [Effectiveness Dermal: 90%]								

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Respiratory Protection:	No [Effectiveness Inhal: 0%]					
Eye Protection:	Yes (chemical goggles)					
Other conditions affecting workers exposure						
Place of use:	Indoor					
Skin surface potentially exposed:	Two hands face (480 cm ²)	One hand face only (240 cm ²)	Two hands face (480 cm ²)	Two hands (960 cm ²)	Two hands face (480 cm ²)	One hand face only (240 cm ²)
Method	TRA Worker 3.0					

3. Exposure estimation and reference to its source

3.1. Environmental release and exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

3.2. Worker exposure

PROCs	2	3	4	5	8a/8b	9	13	14	15
Route of exposure and type of effects									
Inhalation, systemic, long term (mg/m ³)	0,010	0,100	0,500	0,500	0,100	0,100	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,137	0,069	0,686	1,371	1,371	0,686	1,371	0,343	0,034
Dermal, local, long-term	-	-	-	-	-	-	-	-	-
Eye, local	-	-	-	-	-	-	-	-	-
Combined routes, systemic, long-term	-	-	-	-	-	-	-	-	-

Calcium ammonium nitrate (CAN) / Ammonium nitrate

RCR	2	3	4	5	8a/8b	9	13	14	15
Inhalation, systemic, long term	< 0,01	<0,01	0,014	0,01	<0,01	<0,01	<0,01	<0,01	<0,01
Dermal, systemic, long term	0,027	0,013	0,134	0,27	0,268	0,134	0,268	0,067	<0,01
Dermal, local, long-term	Qualitative (see below)								
Eye, local	Qualitative (see below)								
Combined routes, systemic, long-term	0,027	0,016	0,148	0,282	0,271	0,137	0,271	0,070	<0,01

Conclusion on risk characterisation (qualitative)

Dermal, local, long-term

As a long sleeved overall and chemically resistant gloves are worn, the risk of causing local effects via long-term dermal exposure is considered to be controlled.

Eye, local

As eye protection is worn, the risk of causing ocular effects is considered to be controlled.

4. Guidance to DU to evaluate whether they work inside the boundaries set by the ES

In any of the exposure scenarios (ES) described above, the downstream user (DU) works within the limits established by ES if the operational conditions (OC) and risk management measures (RMM) described in the same are complied. When the conditions for the DU are not explicitly described in the general conditions of the ES, the DU must ensure that its specific CO and RMM comply with what is established in them. If the concentration of the substance in the mixture is not explicitly indicated in the ES, no restriction should be applied, that is, up to 100% of the substance may be used. Depending on the basis of the exposure assessment conducted for the ES, this can be done in different ways, as described in each of the environmental and occupational EEs.

Any deviation from the described conditions of use implies:

- (i) inform the SDS provider about deviations and request their inclusion in the ES, or
- (ii) develop an CSR (Chemical Safety Report) for DU (in accordance with article 37, paragraph 4), submit it to ECHA and keep it as its own documentation.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

ES 2:

Use at industrial site - Industrial use as intermediate incl. sampling, loading, filling, transfer, bagging, storage, quality control

1. Title section

ES name: *Use at industrial site - Industrial use as intermediate incl. sampling, loading, filling, transfer, bagging, storage, quality control*

Environment

Industrial use as intermediate incl. sampling, loading, filling, transfer, bagging, storage, quality control	ERC 6a
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Worker

Use in closed process, no likelihood of exposure	PROC 1
Use in closed, continuous process with occasional controlled exposure	PROC 2
Use in closed batch process (synthesis or formulation)	PROC 3
Use in batch and other process (synthesis) where opportunity for exposure arises	PROC 4
Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	PROC 5
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	PROC 8a
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	PROC 8b
Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	PROC 9
Treatment of articles by dipping and pouring	PROC 13
Production of preparations or articles by tableting, compression, extrusion, palletisation	PROC 14
Use as laboratory reagent	PROC 15

2. Conditions of use affecting exposure

2.1. Control of environmental exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

Calcium ammonium nitrate (CAN) / Ammonium nitrate

2.2. Control of worker exposure

PROCs	1	2	3	4/9	5	8a	8b	13/14	15
Product (Article) characteristics									
Concentration of substance in mixture:	≤ 100% (solid)								
Concentration of substance (used for exposure estimates):	Substance as such								
Dustiness of material:	Low								
Amount used (or contained in articles), frequency and duration of use/exposure									
Duration of activity:	< 8 hours								
Technical and organisational conditions and measures									
General ventilation:	Basic general ventilation (1-3 air changes per hour)								
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]								
Containment:	Closed system (minimal contact during routine operations)	Closed continuous process with occasional controlled exposure	Closed batch process with occasional controlled exposure	Semi-closed processes with occasional controlled exposure	No	Semi-closed process with occasional controlled exposure	No		
Occupational Health and Safety Management System:	Advanced								

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Conditions and measures related to personal protection, hygiene and health evaluation

General:	Work under a high standard of personal hygiene. Wash hands and face before breaks. When using the product, do not eat, drink or smoke.
Dermal Protection:	Yes (long sleeved overall; chemically resistant gloves conforming to EN374 with basic employee training) [Effectiveness Dermal: 90%]
Respiratory Protection:	No [Effectiveness Inhal: 0%]
Eye Protection:	Yes (chemical goggles)

Other conditions affecting workers exposure

Place of use:	Indoor						
Skin surface potentially exposed:	One hand face only (240 cm ²)	Two hands face (480 cm ²)	One hand face only (240 cm ²)	Two hands face (480 cm ²)	Two hands (960 cm ²)	Two hands face (480 cm ²)	One hand face only (240 cm ²)
Method	TRA Worker 3.0						

3. Exposure estimation and reference to its source

3.1. Environmental release and exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

3.2. Worker exposure

PROCs	1	2	3	4	5/8a	8a	9	13/14	15
Route of exposure and type of effects									
Inhalation, systemic, long term (mg/m ³)	0,010	0,010	0,100	0,500	0,500	0,100	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,003	0,137	0,069	0,686	1,371	1,371	0,686	1,371 0,343	0,034
Dermal, local, long-term	-	-	-	-	-	-	-	-	-
Eye, local	-	-	-	-	-	-	-	-	-
Combined routes, systemic, long-term	-	-	-	-	-	-	-	-	-

Calcium ammonium nitrate (CAN) / Ammonium nitrate

RCR	1	2	3	4/9	5	8b	9	13/14	15
Inhalation, systemic, long term	< 0,01	< 0,01	<0,01	0,01	0,014	<0,01	<0,01	<0,01	<0,01
Dermal, systemic, long term	< 0,01	0,027	0,013	0,13	0,268	0,268	0,134	0,268 0,067	<0,01
Dermal, local, long-term	Qualitative (see below)								
Eye, local	Qualitative (see below)								
Combined routes, systemic, long-term	< 0,01	0,027	0,016	0,148	0,282	0,282	0,137	0,271 0,07	<0,01

Conclusion on risk characterisation (qualitative)

Dermal, local, long-term

As a long sleeved overall and chemically resistant gloves are worn, the risk of causing local effects via long-term dermal exposure is considered to be controlled.

Eye, local

As eye protection is worn, the risk of causing ocular effects is considered to be controlled.

4. Guidance to DU to evaluate whether they work inside the boundaries set by the ES

In any of the exposure scenarios (ES) described above, the downstream user (DU) works within the limits established by ES if the operational conditions (OC) and risk management measures (RMM) described in the same are complied. When the conditions for the DU are not explicitly described in the general conditions of the ES, the DU must ensure that its specific CO and RMM comply with what is established in them. If the concentration of the substance in the mixture is not explicitly indicated in the ES, no restriction should be applied, that is, up to 100% of the substance may be used. Depending on the basis of the exposure assessment conducted for the ES, this can be done in different ways, as described in each of the environmental and occupational EEs.

Any deviation from the described conditions of use implies:

- (i) inform the SDS provider about deviations and request their inclusion in the ES, or
- (ii) develop an CSR (Chemical Safety Report) for DU (in accordance with article 37, paragraph 4), submit it to ECHA and keep it as its own documentation.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

ES 3:

Use at industrial site - Industrial use as reactive processing aid incl. sampling, loading, filling, transfer, bagging, storage, quality control

1. Title section

ES name: *Use at industrial site - Industrial use as reactive processing aid incl. sampling, loading, filling, transfer, bagging, storage, quality control*

Environment

Industrial use as reactive processing aid incl. sampling, loading, filling, transfer, bagging, storage, quality control	ERC 6b
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Worker

Use in closed process, no likelihood of exposure	PROC 1
Use in closed, continuous process with occasional controlled exposure	PROC 2
Use in closed batch process (synthesis or formulation)	PROC 3
Use in batch and other process (synthesis) where opportunity for exposure arises	PROC 4
Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	PROC 5
Industrial spraying	PROC 7
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	PROC 8a
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	PROC 8b
Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	PROC 9
Roller application or brushing	PROC 10
Treatment of articles by dipping and pouring	PROC 13
Use as laboratory reagent	PROC 15

2. Conditions of use affecting exposure

2.1. Control of environmental exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

Calcium ammonium nitrate (CAN) / Ammonium nitrate

2.2. Control of worker exposure

PROCs	1	2	3	4/9	5/13	8a/10	8b	7	15	
Product (Article) characteristics										
Concentration of substance in mixture:	≤ 100% (solid)									
Concentration of substance (used for exposure estimates):	Substance as such									
Dustiness of material:	Low									
Amount used (or contained in articles), frequency and duration of use/exposure										
Duration of activity:	< 8 hours									
Technical and organisational conditions and measures										
General ventilation:	Basic general ventilation (1-3 air changes per hour)									
Local exhaust ventilation:	no [Effectiveness Inhl: 0%]									
Containment:	Closed system (minimal contact during routine operations)	Closed continuous process with occasional controlled exposure	Closed batch process with occasional controlled exposure	Semi-closed processes with occasional controlled exposure	No			Semi-closed processes with occasional controlled exposure	No	
Occupational Health and Safety Management System:	Advanced									

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Conditions and measures related to personal protection, hygiene and health evaluation

General:	Work under a high standard of personal hygiene. Wash hands and face before breaks. When using the product, do not eat, drink or smoke.
Dermal Protection:	Yes (long sleeved overall; chemically resistant gloves conforming to EN374 with basic employee training) [Effectiveness Dermal: 90%]
Respiratory Protection:	No [Effectiveness Inhal: 0%]
Eye Protection:	Yes (chemical goggles)

Other conditions affecting workers exposure

Place of use:	Indoor						
Skin surface potentially exposed:	One hand face only (240 cm ²)	Two hands face (480 cm ²)	One hand face only (240 cm ²)	Two hands face (480 cm ²)	Two hands (960 cm ²)	Two hands and upper wrists (1500 cm ²)	One hand face only (240 cm ²)
Method	TRA Worker 3.0						

3. Exposure estimation and reference to its source

3.1. Environmental release and exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

3.2. Worker exposure

PROCs	1	2	3	4	5/8a/10	7	8b/13	9	15
Route of exposure and type of effects									
Inhalation, systemic, long term (mg/m ³)	0,010	0,010	0,100	0,500	0,500	1,000	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,003	0,137	0,069	0,686	1,371	4,286	1,371	0,686	0,034
Dermal, local, long-term	-	-	-	-	-	-	-	-	-
Eye, local	-	-	-	-	-	-	-	-	-

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Combined routes, systemic, long-term	-	-	-	-	-	-	-	-	-
RCR	1	2	3	4	5/8a/10	7	8b/13	9	15
Inhalation, systemic, long term	< 0,01	< 0,01	<0,01	0,01	0,014	0,028	<0,01	<0,01	<0,01
Dermal, systemic, long term	< 0,01	0,027	0,013	0,13	0,268	0,837	0,268	0,134	<0,01
Dermal, local, long-term	Qualitative (see below)								
Eye, local	Qualitative (see below)								
Combined routes, systemic, long-term	< 0,01	0,027	0,016	0,148	0,282	0,865	0,271	0,137	<0,01

Conclusion on risk characterisation (qualitative)

Dermal, local, long-term

As a long sleeved overall and chemically resistant gloves are worn, the risk of causing local effects via long-term dermal exposure is considered to be controlled.

Eye, local

As eye protection is worn, the risk of causing ocular effects is considered to be controlled.

4. Guidance to DU to evaluate whether they work inside the boundaries set by the ES

In any of the exposure scenarios (ES) described above, the downstream user (DU) works within the limits established by ES if the operational conditions (OC) and risk management measures (RMM) described in the same are complied. When the conditions for the DU are not explicitly described in the general conditions of the ES, the DU must ensure that its specific CO and RMM comply with what is established in them. If the concentration of the substance in the mixture is not explicitly indicated in the ES, no restriction should be applied, that is, up to 100% of the substance may be used. Depending on the basis of the exposure assessment conducted for the ES, this can be done in different ways, as described in each of the environmental and occupational EEs.

Any deviation from the described conditions of use implies:

- (i) inform the SDS provider about deviations and request their inclusion in the ES, or
- (ii) develop an CSR (Chemical Safety Report) for DU (in accordance with article 37, paragraph 4), submit it to ECHA and keep it as its own documentation.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

ES 4:

Use by professional worker - Use by professional worker (outdoor and indoor of reactive substances in open systems)

1. Title section

ES name: *Use by professional worker - Use by professional worker (outdoor and indoor of reactive substances in open systems)*

Environment

Use by professional worker (outdoor and indoor of reactive substances in open systems)	ERC 8e; ERC8b
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Worker

Use in closed process, no likelihood of exposure	PROC 1
Use in closed, continuous process with occasional controlled exposure	PROC 2
Use in closed batch process (synthesis or formulation)	PROC 3
Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	PROC 5
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	PROC 8a
Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	PROC 8b
Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	PROC 9
Non industrial spraying	PROC 11
Use as laboratory reagent	PROC 15
Hand-mixing with intimate contact and only PPE available	PROC 19

2. Conditions of use affecting exposure

2.1. Control of environmental exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

2.2. Control of worker exposure

PROCs	1	2	3	5	8a	8b	9	11	15	19
Product (Article) characteristics										
Concentration of substance in mixture:	≤ 100% (solid)									

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Concentration of substance (used for exposure estimates):	Substance as such					
Dustiness of material:	Low					
Amount used (or contained in articles), frequency and duration of use/exposure						
Duration of activity:	< 8 hours					
Technical and organisational conditions and measures						
General ventilation:	Basic general ventilation (1-3 air changes per hour)					
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]					
Containment:	Closed system (minimal contact during routine operations)	Closed continuous process with occasional controlled exposure	Closed batch process with occasional controlled exposure	No	Semi-closed process with occasional controlled exposure	No
Occupational Health and Safety Management System:	Advanced					
Conditions and measures related to personal protection, hygiene and health evaluation						
General:	Work under a high standard of personal hygiene. Wash hands and face before breaks. When using the product, do not eat, drink or smoke.					
Dermal Protection:	Yes (long sleeved overall; chemically resistant gloves conforming to EN374 with basic employee training) [Effectiveness Dermal: 90%]					
Respiratory Protection:	No [Effectiveness Inhal: 0%]					

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Eye Protection:	Yes (chemical goggles)								
Other conditions affecting workers exposure									
Place of use:	Indoor								
Skin surface potentially exposed:	One hand face only (240 cm ²)	Two hands face (480 cm ²)	One hand face only (240 cm ²)	Two hands face (480 cm ²)	Two hands (960 cm ²)	Two hands face (480 cm ²)	Two hands and upper wrists (1500 cm ²)	One hand face only (240 cm ²)	Two hands and forearms (1980 cm ²)
Method	TRA Worker 3.0								

3. Exposure estimation and reference to its source

3.1. Environmental release and exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

3.2. Worker exposure

PROCs	1	2	3	5	8a	8b	9	11	15	19
Route of exposure and type of effects										
Inhalation, systemic, long term (mg/m ³)	0,010	0,010	0,100	1,000	0,500	0,500	0,500	1,000	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,003	0,137	0,069	1,371	1,371	1,371	0,686	4,284	0,034	2,829
Dermal, local, long-term		-	-	-	-	-	-	-	-	-
Eye, local		-	-	-	-	-	-	-	-	-

Calcium ammonium nitrate (CAN) / Ammonium nitrate

	1	2	3	5	8a	8b	9	11	15	19
Combined routes, systemic, long-term	-	-	-	-	-	-	-	-	-	-
RCR	1	2	3	5	8a	8b	9	11	15	19
Inhalation, systemic, long-term	< 0,01	< 0,01	<0,01	0,028	0,01	0,014	0,014	0,03	<0,01	<0,01
Dermal, systemic, long-term	< 0,01	0,027	0,013	0,268	0,27	0,268	0,134	0,837	<0,01	0,552
Dermal, local, long-term	Qualitative (see below)									
Eye, local	Qualitative (see below)									
Combined routes, systemic, long-term	< 0,01	0,027	0,016	0,296	0,282	0,282	0,148	0,865	<0,01	0,555
Conclusion on risk characterisation (qualitative)										
Dermal, local, long-term										
As a long sleeved overall and chemically resistant gloves are worn, the risk of causing local effects via long-term dermal exposure is considered to be controlled.										
Eye, local										
As eye protection is worn, the risk of causing ocular effects is considered to be controlled.										

4. Guidance to DU to evaluate whether they work inside the boundaries set by the ES

In any of the exposure scenarios (ES) described above, the downstream user (DU) works within the limits established by ES if the operational conditions (OC) and risk management measures (RMM) described in the same are complied. When the conditions for the DU are not explicitly described in the general conditions of the ES, the DU must ensure that its specific CO and RMM comply with what is established in them. If the concentration of the substance in the mixture is not explicitly indicated in the ES, no restriction should be applied, that is, up to 100% of the substance may be used. Depending on the basis of the exposure assessment conducted for the ES, this can be done in different ways, as described in each of the environmental and occupational EEs.

Any deviation from the described conditions of use implies:

- (i) inform the SDS provider about deviations and request their inclusion in the ES, or
- (ii) develop an CSR (Chemical Safety Report) for DU (in accordance with article 37, paragraph 4), submit it to ECHA and keep it as its own documentation.

Calcium ammonium nitrate (CAN) / Ammonium nitrate

ES 5:

Consumer Use - Consumer Use (outdoor and indoor of reactive substances in open systems) as part of specialist products, pyrotechnics and/or matches, fertilizer

1. Title section

ES name: *Consumer Use - Consumer Use (outdoor and indoor of reactive substances in open systems) as part of specialist products, pyrotechnics and/or matches, fertilizer*

Environment

Consumer Use (outdoor and indoor of reactive substances in open systems) as part of specialist products, pyrotechnics and/or matches, fertilizer	ERC 8e; ERC 8b
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Consumer

Consumer Use (outdoor and indoor of reactive substances in open systems) as part of specialist products, pyrotechnics and/or matches	PC 1
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Consumer Use (outdoor and indoor) as part of fertilizer	PC 12
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2. Conditions of use affecting exposure

2.1. Control of environmental exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

2.2. Control of consumer exposure

PCs	1	12
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Product (Article) characteristics

Concentration of substance in mixture:	0.3 g/g (default)	0.46 g/g (max. allowed)
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Measures related to information and behavioural advice to consumers including personal protection and hygiene

Adult/Child assumed:	Adult
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Use frequency:	Infrequent
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Eye Protection:	Chemical goggles or safety glasses with side shields (when the concentration of the substance is $\geq 10\%$)
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Other conditions affecting consumers exposure

Calcium ammonium nitrate (CAN) / Ammonium nitrate

Instructions:	Product labelling, showing that the product causes serious eye irritation (when the concentration of the substance is $\geq 10\%$)
Body parts potentially exposed:	Inside hands / one hand / palm of hands (428.8 cm ²)
Dermal transfer factor:	1
Method	TRA Consumers 3.1

3. Exposure estimation and reference to its source

3.1. Environmental release and exposure

Exposure assessment and risk characterization are not required for environment, in accordance with the ECHA Guidance on information requirements and chemical safety assessment, Part B: Hazard assessment, Version 2.1, December 2011

3.2. Consumer exposure

PCs	1	12
Route of exposure and type of effects		
Dermal, systemic, long term (mg/kg bw/day)	0,858	1,315
Eye, local	-	-
Combined routes, systemic, long-term	-	-
RCR	1	12
Dermal, systemic, long term	0,335	0,514
Eye, local	Qualitative (see below)	
Combined routes, systemic, long-term	0,335	0,514

Conclusion on risk characterisation (qualitative)

Eye, local

Calcium ammonium nitrate (CAN) / Ammonium nitrate

As chemical goggles or safety glasses with side shields are worn (when the concentration of the substance is 10% or more), the risk of the substance for causing ocular effects is considered to be controlled.

4. Guidance to DU to evaluate whether they work inside the boundaries set by the ES

In any of the exposure scenarios (ES) described above, the downstream user (DU) works within the limits established by ES if the operational conditions (OC) and risk management measures (RMM) described in the same are complied. When the conditions for the DU are not explicitly described in the general conditions of the ES, the DU must ensure that its specific CO and RMM comply with what is established in them. If the concentration of the substance in the mixture is not explicitly indicated in the ES, no restriction should be applied, that is, up to 100% of the substance may be used. Depending on the basis of the exposure assessment conducted for the ES, this can be done in different ways, as described in each of the environmental and occupational EEs.

Any deviation from the described conditions of use implies:

- (i) inform the SDS provider about deviations and request their inclusion in the ES, or
- (ii) develop an CSR (Chemical Safety Report) for DU (in accordance with article 37, paragraph 4), submit it to ECHA and keep it as its own documentation.