

Safety Data Sheet

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



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Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

SECTION 1		Identification of the substance/mixture and of the company/undertaking
1.1		Product identifier
	Trade name	Technical Ammonium nitrate
	Synonims	Technical ammonium nitrate, porous ammonium nitrate, ammonium nitrate, technical ammonium nitrate LD72, technical ammonium nitrate LD78, technical ammonium nitrate HD (Emulsion), technical ammonium nitrate (Denso).
	Code	FDS-031
	Chemical name	ammonium nitrate
	Chemical formula	NH ₄ NO ₃
	Index Number	Not applicable.
	EINECS Number	229-347-8
	CAS Number	6484-52-2
	Registration Number	01-2119490981-27-0028
	UFI	RN40-70JG-N00G-J8UM
1.2		Relevant identified uses of the substance or mixture and uses advised against
	Application of the substance / the mixture	Manufacture of industrial products.
	Uses advised against	Uses other than those recommended. The acquisition, possession or use by the general public is restricted.
1.3	Details of the supplier of the safety data sheet	Fertiberia, S.A. 27, Agustín de Foxa Street pta. 11 28036 Madrid Madrid (Spain) +34 91.586.62.00; fdsinfo@grupofertiberia.com
1.4	Emergency telephone number	Puertollano Factory: +34 926.44.93.00 (Only available during office hours; Monday-Friday; 09:00-18:00)
SECTION 2		Hazards identification

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

2.1	Classification of the substance or mixture according Regulation (EC) n° 1272/2008 (CLP)	Ox. Sol. 3 H272 May intensify fire; oxidiser. 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	H272 May intensify fire; oxidiser. 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. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P220 Keep away from clothing and other combustible materials. P280 Wear protective gloves/protective clothing/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. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
	Additional information	Acquisition, possession or use by private individuals is subject to restrictions.
	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	Entry 58: Shall not be placed on the market for the first time after 27 June 2010 as a substance or in mixtures containing more than 28 % by weight of nitrogen in relation to ammonium nitrate for use as a solid fertiliser, whether straight or compound, unless it complies with the technical provisions concerning ammonium nitrate fertilisers of high nitrogen content set out in Annex III to Regulation (EC) No 2003/2003 and its respective amendments.

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

	Special packaging requirements	Not applicable.	
	Containers to be fitted with child-resistant fastenings	Not applicable.	
	Tactile hazard warning	Not applicable.	
2.3	Other hazards		
	Other hazards which do not result in classification	None known.	
	Results of the PBT and vPvB assessment	Not applicable.	
SECTION 3	Composition/information on ingredients		
3.1	Substances		
	Name	EC Number	CAS Number
	Ammonium nitrate	229-347-8	6484-52-2
3.2	Mixtures		
	Not applicable.		
	Additional indications	For the wording of the listed hazard phrases refer to section 16.	
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.	

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

	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.
	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 observation.

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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	
	Has a fire-promoting effect due to release of oxygen. Possible explosive decomposition when heated. Ambient fire may release hazardous vapours.	
	Hazardous thermal decomposition products	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) 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.	
SECTION 6	Accidental release measures	
6.1	Personal precautions, protective equipment and emergency procedures	
	Wear protective clothing.	
	For non-emergency personnel	
	Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. In case of non-flammable spills and leaks, wear vapor protective clothing. Stop leak if you can do so without risk. Keep unnecessary persons away, isolate the danger area and prevent entry. Eliminate sources of combustion. Keep upwind, out of low areas and ventilate confined spaces before entering. Assess the affected area to determine if evacuation is necessary. If it is necessary to evacuate the danger zone, you should follow the advice of an expert. If sheltering in place, tape windows and doors, close outside air intakes (attic fans, etc.) and place a damp towel or cloth over your face (if necessary).	
	For emergency responders	
	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.	
6.2	Environmental precautions	

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	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 1 for information on contact in case of emergency. 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. 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 food areas. Avoid contact with eyes, skin or clothing. Do not breathe vapours or mist. Do not ingest. Avoid release to the environment. Keep in original container or approved alternative made of compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residues and may be hazardous. Do not reuse container.
	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.
7.2	Conditions for safe storage, including any incompatibilities	

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Due to the risk of fire and decomposition of this product, the following guidelines are established:

- Dust generation should be kept to a minimum. Storerooms shall be designed with adequate thermal insulation to ensure that the product temperature does not exceed 32 °C, which is the only way to avoid dust formation and the associated hazards.
- Reducing agents, acids, alkalis, sulphur, chlorates, chromates, nitrites, permanganates and metal powders or substances containing metals such as copper, cobalt, nickel, zinc and their alloys shall not be stored next to combustible materials (gas-oil, oils, greases, wood, paper, etc.).

It shall also be kept away from stacks of hay, straw, grain, seeds and organic matter in general.

- These fertilisers shall be stored in such a way as to avoid mixing with fertilisers other than solid ammonium nitrates. For this purpose and in case of bulk storage, the piles must be separated by walls or solid walls. If this is not possible, the minimum distance between the edges of the base of the piles shall be 8 m, provided that the fertilisers stored adjacent to the piles are not ammonium nitrates, in which case the distance may be 5 m.

Maximum care shall be taken to ensure that these fertilisers do not come into contact with urea or fertilisers with a risk of self- sustaining decomposition under any circumstances.

- The height of stacks of both packaged and bulk product must be at least 1 m below eaves, rafters, lighting points and electrical installations.
- Aisles between stacks of packed produce must be wide enough to provide access from three sides. The minimum width of aisles shall be 2,5 m.
- The use of naked portable lamps shall not be permitted.
- The use of any heat source shall be prohibited unless properly authorised, supervised and controlled. Smoking shall be prohibited at all times.
- Welding or cutting work shall be carried out on surfaces previously cleaned of nitrate residues and sufficiently insulated from nitrate.
- Water, sawdust and organic products must not be used to clean the warehouse floor.
- Exposure of the fertiliser to sunlight must be avoided, even if it is packaged.
- In no case shall the arrangement of the stored product obstruct normal or emergency exits, nor be an obstacle to access to safety equipment or areas.
- Storerooms shall be adequately ventilated to avoid exceeding the maximum permissible concentrations of dust under working conditions.

- In enclosures for the storage of ammonium nitrate fertilisers of high nitrogen content, no handling of the product shall be permitted except for loading and unloading or feeding to the packaging facilities.
- The operator of the installation shall have a certificate or certified copy thereof, guaranteeing that the stored product has passed the detonability test laid down in order to exclude the possibility that the product is explosive grade.
- The roof must have a light structure and wood or other combustible material must not be used.
- Buildings for storage must be fitted with lightning arresters.

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.

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

Recommended monitoring procedures		<p>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.</p>		
Derived effect levels		No DELs available.		
Predicted effect concentrations		No PECs available.		
Ingredients with limit values that require monitoring at the workplace		Not required.		
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
		Long-term	Systemic	Low risk (no threshold was derived)

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

Consumer	Ocular (mg/kg pc/día)	term	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 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	
	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	

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	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.
8.2	Exposure controls		
	Appropriate engineering controls		<ul style="list-style-type: none"> - Ensure adequate ventilation. - Apply technical measures to comply with professional exposure limits. - Consult the protective measures listed in sections 7 and 8.
	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	<p>Required when dusts are generated.</p> <p>Recommended Filter type: Filter P2 for solid and liquid particles of harmful substances.</p>
		Hand protection	Wear suitable gloves (e.g. rubber or PVC) when handling the product for long periods of time.
		Glove material	Nitrile rubber, NBR
		Other	Use personal protective equipment during use and handling of the product.
		Eye/face protection	<p>Safety eyewear complying with an approved standard EN 166:2002 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, use the following protection, unless the assessment indicates a higher degree of protection: safety glasses with side shields.</p> <p>Recommended: Eyewear, mask or other protection that covers the entire face must be used if there is a possibility of being exposed to aerosols or splashes, or if hot material is handled.</p>
		Thermal hazards	Not available.
	Environmental exposure controls		General ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

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SECTION 9	Physical and chemical properties	
9.1	Information on basic physical and chemical properties	
	Appearance	Granulate
	Colour	White
	Odour	Odourless
	Odour threshold	Not determined
	pH	4.5(10%)
	Melting point/freezing point	170 ° C
	Initial boiling point and boiling range	210 ° C
	Flash point	Not applicable due to physico-chemical characteristics
	Evaporation rate	Not available
	Flammability	Contact with combustible material may cause fire.
	Upper/lower flammability or explosive limits	
	Lower	Not available.
	Upper	Not available.
	Vapour pressure	Not applicable due to physico-chemical characteristics
	Vapour density	Not applicable due to physico-chemical characteristics
	Relative density	at 20 ° C 1.72
	Solubility	
	In water	at 20 ° C 1183 g/l

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	Partition coefficient: n-octanol/water	Not applicable due to physico-chemical characteristics
	Auto-ignition temperature	Not available
	Decomposition temperature	>210 ° C
	Viscosity	
	Kinematic	Not applicable due to physico-chemical characteristics
	Dynamic	Not applicable due to physico-chemical characteristics
	Explosive properties	The product is not explosive
	Oxidising properties	Not available
9.2	Other information	
	Appearance	Granulated.
	Explosives properties	Not explosive
	Oxidizing properties	Not available
	Information with regard to physical hazard classes	
	Explosives	Not applicable due to physico-chemical properties
	Flammable gases	Not applicable due to physico-chemical properties
	Aerosols	Not applicable due to physico-chemical properties
	Oxidising gases	Not applicable due to physico-chemical properties
	Gases under pressure	Not applicable due to physico-chemical properties
	Flammable liquids	Not applicable due to physico-chemical properties
	Flammable solids	Not applicable due to physico-chemical properties
	Self-reactive substances and mixtures	Not applicable due to physico-chemical properties
	Substances and mixtures, which emit flammable gases in contact with water	Not applicable due to physico-chemical properties
	Oxidising liquids	Not applicable due to physico-chemical properties
	Oxidizing solids	Can agravate a fire; oxidising.
	Organic peroxides	Not applicable due to physico-chemical properties

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	Corrosive to metals	Not applicable due to physico-chemical properties
	Desensitised explosives	Not applicable due to physico-chemical properties
	Other safety characteristics	
	Mechanical sensitivity	Not applicable due to physico-chemical properties
	Self-accelerating polymerisation temperature	Not applicable due to physico-chemical properties
	Formation of explosible dust/air mixtures	Not applicable due to physico-chemical properties
	Acid/alkaline reserve	Not applicable due to physico-chemical properties
	Evaporation rate	Not available
	Miscibility	Not available
	Conductivity	Not applicable due to physico-chemical properties
	Corrosiveness	Not applicable due to physico-chemical properties
	Gas group	Not applicable due to physico-chemical properties
	Redox potential	Not applicable due to physico-chemical properties
	Radical formation potential	Not applicable due to physico-chemical properties
	Photocatalytic properties	Not applicable due to physico-chemical properties
SECTION 10	Stability and reactivity	
10.1	Reactivity	Oxidizing.
10.2	Chemical stability	Sensitivity to light.
10.3	Possibility of hazardous reactions	<p>Risk of explosion with: Alkali metals, aluminium chloride, ammonia, ammonium compounds, barium nitrate, combustible substances, carbides, charcoal, chlorates, chlorites, 2,4 Dinitrotoluene, esters, urea, iron(III) compounds, potassium, potassium permanganate, hydrocarbons, copper compounds, nitro compounds, oils, perchlorates, powdered metals, powdered aluminium, reducing agents, rust, sodium, sodium hypochlorite, sulfur, wood/sawdust, sugars, organic substances, hypochlorous acid, organic nitro compounds.</p> <p>Aluminium, antimony, Bismuth, Lead, cadmium, chromium, Cobalt, Iron, Copper, magnesium, Manganese, Nickel, Zinc, Tin, Mild steel, in powder form.</p> <p>Risk of ignition or formation of inflammable gases or vapours with: potassium dichromate, nitrites, Metals, phosphorus Exothermic reaction with: metallic chlorides, salts of oxyhalogenic acids, sulphides, organic nitro compounds, oxidizing agents, alkalines, nonmetals, acids.</p>
10.4	Conditions to avoid	Strong heating (decomposition).
10.5	Incompatible materials	Metals, Mild steel. Reducing agents, powdered metals, strong acids, strong oxidizing agents.

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

10.6	Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Nitrogen oxides (NO _x), ammonia and SO ₂ .				
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		

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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.

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

None of the components are listed

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	Other information					
	Not available					
SECTION 12	Ecological information					
12.1	Toxicity					
	Aquatic toxicity					
	Component	N° CAS		Fish	Crustacea	Algae
		6484-52-2	Short term	CL50 (48h): 447 mg/L (Cyrpinus carpio)	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			
12.3	Bioaccumulative potential					
	Component	N° CAS	Octanol-water partition coefficient (Kow)	Bioaccumulation factor (BFC)	Observations	
	Ammonium nitrate	6484-52-2	Not applicable. Inorganic substance.	-	-	
12.4	Mobility in soil					

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	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	Endocrine disrupting properties				
	The product doesn't contain any endocrine disrupting substance.				
12.7	Other adverse effects				
	Significative effects or critical risks are not known.				
SECTION 13	Disposal considerations				
13.1	Waste treatment methods				
	Methods of disposal	<p>Waste management (disposal and recovery) :</p> <p>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 :</p> <p>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	HP2: Oxidising HP4: Irritant - skin irritation and eye damage			
SECTION 14	Transport information				
	Regulatory information	ADR/RID	ADNR	IMDG	IATA
14.1	UN number	UN1942			
14.2	UN proper shipping name	UN1942 AMMONIUM NITRATE		AMMONIUM NITRATE	
14.3	Transport hazard class(es)				
	Class	5.1 (O2) Oxidising substances.		5.1 Oxidising substances.	
	Label	5,1		5,1	
14.4	Packing group	III			
14.5	Environmental hazards	Not applicable.			

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

14.6	Special precautions for user	Not applicable.		
		Hazard identification number (Kemler code): 50 EMS Number: F-H,S-Q Segregation groups: (SGG2) Ammonium compounds Stowage Category: C Stowage Code: SW1 Protected from sources of heat. SW14 Category A only if the special stowage provisions of 7.4.1.4 and 7.6.2.8.4 are complied with SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.		
	Segregation Code:	SG16 Stow "separated from" class 4.1 SG42 Stow "separated from" SGG3-bromates. SG45 Stow "separated from" SGG4-chlorates. SG47 Stow "separated from" SGG5-chlorites. SG48 Stow "separated from" combustible material (particularly liquids). Combustible material does not include packing materials or dunnage. SG51 Stow "separated from" SGG8-hypochlorites SG56 Stow "separated from" SGG12-nitrites SG58 Stow "separated from" SGG13-perchlorates SG59 Stow "separated from" SGG14-permanganates SG61 Stow "separated from" SGG15-powdered metals		
14.7	Maritime transport in bulk according to IMO instruments	Not applicable.		
	Additional information	Limited quantities (LQ) 5 kg Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g Transport category 3 Tunnel restriction code E	Limited quantities (LQ) 5 kg Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g UN "Model Regulation": ** UN 1942 AMMONIUM NITRATE, 5.1, IIII	-
SECTION 15 Regulatory information				
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture			
	GB Regulation (EC) No 1907/2006 (REACH)	This product complies with the REACH Regulation.		

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

Named dangerous substances - ANNEX VI (CLP)	None substance listed.
SEVESO Category	Not applicable.
Qualifying quantity (tonnes) for the application of lower-tier requirements	350 t
Qualifying quantity (tonnes) for the application of upper-tier requirements	2.500 t
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))	Limit value: >45,7 %, Licensing is not allowed.
Annex II - Reportable Explosives Precursors	It doesn't contain the substance.
Regulation (EC) No 273/2004 on Drug Precursors	It doesn't contain the substance.
Regulation (EU) No. 1009/2009	This product complies with the Fertilizer's 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.	None substance listed.
Regulation (EC) No 649/2012 concerning the export and import of dangerous chemicals.	Not applicable.

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

	Regulation (EC) No 111/2005 laying down rules for the monitoring of and trade in drug precursors between the Community and third countries.	It doesn't contain the substance.
	Evaluation PBT/mPmB	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 intensify fire; oxidiser. H319 Causes serious eye irritation.
	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	Inclusion of UFI number. Correction of errors in sections 13 and 15. synonyms added. New
	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) 2020/878) 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).

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

	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.

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.

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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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

2.2. Control of worker exposure

PROCs	2	3	4	5	8a/8b	9	13	14	15
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Product (Article) characteristics

Concentration of substance in mixture:	\leq 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
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Technical and organisational conditions and measures

General ventilation:	Basic general ventilation (1-3 air changes per hour)
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Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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%]					
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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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	0,100	0,100	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,137	0,069	###	1,371	1,371	0,686	1,371	0,343	0,034
Dermal, local, long-term	-	-	-	-	-	-	-	-	-
Eye, local	-	-	-	-	-	-	-	-	-
Combined routes, systemic, long-term	-	-	-	-	-	-	-	-	-
RCR	2	3	4	5	8a/8b	9	13	14	15
Inhalation, systemic, long term	< 0,01	<0,01	0	0,01	<0,01	<0,01	<0,01	<0,01	<0,01
Dermal, systemic, long term	0,027	0,013	0,1	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	###	0,282	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.

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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.

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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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

2.2. Control of worker exposure

PROCs	1	2	3	4/9	5	8a	8b	13/14	15
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Product (Article) characteristics

Concentration of substance in mixture:	\leq 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
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Technical and organisational conditions and measures

General ventilation:	Basic general ventilation (1-3 air changes per hour)
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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
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Occupational Health and Safety Management System:	Advanced						
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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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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	###	0,500	0,500	0,100	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,003	0,137	###	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	-	-	-	-	-	-	-	-	-
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	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	###	0,148	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

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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.

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

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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

2.2. Control of worker exposure

PROCs	1	2	3	4/9	5/13	8a/10	8b	7	15
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Product (Article) characteristics

Concentration of substance in mixture:	$\leq 100\%$ (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
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Technical and organisational conditions and measures

General ventilation:	Basic general ventilation (1-3 air changes per hour)
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]

Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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
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Occupational Health and Safety Management System:	Advanced
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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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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	###	0,500	0,500	1,000	0,100	0,100	0,100
Dermal, systemic, long term (mg/kg bw/day)	0,003	0,137	###	0,686	1,371	4,286	1,371	0,686	0,034
Dermal, local, long-term	-	-	-	-	-	-	-	-	-
Eye, local	-	-	-	-	-	-	-	-	-
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	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	###	0,148	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.

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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.

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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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
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Product (Article) characteristics

Concentration of substance in mixture:	\leq 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									
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Technical and organisational conditions and measures

General ventilation:	Basic general ventilation (1-3 air changes per hour)									
Local exhaust ventilation:	no [Effectiveness Inhal: 0%]									

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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
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Occupational Health and Safety Management System:	Advanced					
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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)	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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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	###	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	0,686	4,284	0,034	2,829
Dermal, local, long-term		-	-	-	-	-	-	-	-	-
Eye, local		-	-	-	-	-	-	-	-	-
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	0,01	0,014	0,014	0,03	<0,01	<0,01
Dermal, systemic, long term	< 0,01	0,027	0,013	0,3	0,27	0,268	0,134	0,837	<0,01	0,552

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

Dermal, local, long-term	Qualitative (see below)									
Eye, local	Qualitative (see below)									
Combined routes, systemic, long-term	< 0,01	0,027	0,016	###	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.

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

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
Product (Article) characteristics		
Concentration of substance in mixture:	0.3 g/g (default)	0.46 g/g (max. allowed)

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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Ammonium nitrate (technical grade) with a nitrogen content $\geq 34.5\%$ N and less than 0.2% combustible matter

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

Ammonium nitrate (technical grade) with a nitrogen content \geq 34.5% N and less than 0.2% combustible matter

Eye, local	Qualitative (see below)	
Combined routes, systemic, long-term	0,335	0,514

Conclusion on risk characterisation (qualitative)

Eye, local

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.