

Safety Data Sheet

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



Publication date: 19.02.2024

Edition: 4

Revision date: 01.12.2022

Revision: 1

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

SECTION 1		Identification of the substance/mixture and of the company/undertaking
1.1	Product identifier	
	Trade name	NERGETIC DYNAMIC 25 CPRO Zimactiv – DZ; NERGETIC DZ+ con SDCD; NERGETIC DZ+ ZIMACTIV DUO-PRO.
	Code	FDS-040
	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	AN10-H0DK-X005-DAFC
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Application of the substance / the mixture	Fertiliser
	Uses advised against	Others than those indicated.
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	Aviles Factory: +34 985.57.78.50 (Only available during office hours; Monday-Friday; 09:00-18:00) THE NETHERLANDS: National Poisons Information Center / University Medical Center Utrecht +31 88 75 585 61
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. Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
2.2	Label elements	
	Hazard pictograms	

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	Signal word	Warning
	Hazard-determining components of labelling	Not applicable.
	Hazard statements	H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
	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. P273 Avoid release to the environment. 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. 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 notifications.
	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.
2.3	Other hazards	
	Other hazards which do not result in classification	May contain nitrification inhibitor Dicyandiamide (DCD)-Soluble. The inhibitor content expressed as a percentage by mass of ammonium, urea and cyanamide nitrogen may be between 0.15% and 0.8%. This substance does not contribute any risk to the final product.

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	Results of the PBT and vPvB assessment	Not applicable.				
SECTION 3		Composition/information on ingredients				
3.1	Substances					
	Not applicable.					
3.2	Mixtures					
	Name	CE number	CAS number	Registration number	%(P/P)	Classification Regulation CE N° 1272/2008
	Ammonium nitrate	229-347-8	6484-52-2	01-2119490981-27-XXXX	30-45%	Ox. Sol. 3 H272; Eye Irrit. 2 H319
	Zinc sulfate monohydrate	231-793-3	7446-19-7	01-2119474684-27-XXXX	<=1.0%	Acute Tox. 4 H302; Eye Dam. 1 H318; Aquatic Acute 1 H400; Aquatic Chronic 1 H410
	Additional indications	NPK with negative self-sustaining decomposition test results 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 not an specific treatment.
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.	

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	Hazardous thermal decomposition products	Nitrogen oxides, nitrous gases, ammonia.
5.3	Advice for firefighters	
	<p>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.</p>	
SECTION 6	Accidental release measures	
6.1	Personal precautions, protective equipment and emergency procedures	
	Wear protective clothing.	
	For non-emergency personnel	
	<p>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.</p> <p>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).</p>	
	For emergency responders	
	<p>Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.</p>	
6.2	Environmental precautions	
	<p>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).</p>	
6.3	Methods and material for containment and cleaning up	
	<p>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.</p>	

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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. Avoid contact with eyes, skin or clothing. Do not breathe vapors or 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.
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</p>	

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	<p>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.</p> <p>Permanent heating or electrical installations must be designed in such a way that fertiliser can never come into contact with them.</p> <p>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.
	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.
	Ingredients with limit values that require monitoring at the workplace	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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DNEL					
Substance				6484-52-2	7446-19-7
				Ammonium nitrate	Zinc sulfate monohydrate
Industrial/Professional worker	Inhalation (mg/m³)	Long-term	Systemic	36 mg/m ³	1 mg/m ³
			Local	No hazard has been identified	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	No hazard has been identified
			Local	Hazards are unknown but no further information is needed as no exposure to the substance is expected to occur	No hazard has been identified
	Dermal (mg/kg pc/día)	Long-term	Systemic	5,12 mg/kg bw/d	8,3 mg/kg bw/d
			Local	No hazard has been identified	No hazard has been identified
		Short-term	Systemic	No hazard has been identified	No hazard has been identified
			Local	No hazard has been identified	No hazard has been identified
	Ocular (mg/kg pc/día)	Long-term	Systemic	Low risk (no threshold was derived)	No hazard has been identified
			Local	Low risk (no threshold was derived)	No hazard has been identified
		Short-term	Systemic	Low risk (no threshold was derived)	No hazard has been identified

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Consumer			term	Local	Low risk (no threshold was derived)	No hazard has been identified
	Inhalation (mg/m³)	Long-term	Systemic	8,9 mg/m ³	1,25 mg/m ³	
			Local	No hazard has been identified	No hazard has been identified	
			Short-term	Systemic	No hazard has been identified	No hazard has been identified
				Local	No hazard has been identified	No hazard has been identified
		Dermal (mg/kg pc/day)	Long-term	Systemic	2,56 mg/kg bw/d	8,3 mg/kg bw/d
				Local	No hazard has been identified	No hazard has been identified
			Short-term	Systemic	No hazard has been identified	No hazard has been identified
				Local	No hazard has been identified	No hazard has been identified
	Oral (mg/kg pc/day)	Long-term	Systemic	2,56 mg/kg bw/d	0,83 mg/kg bw/d	
			Local	No hazard has been identified	No hazard has been identified	
		Short-term	Systemic	No hazard has been identified	No hazard has been identified	
			Local	No hazard has been identified	No hazard has been identified	
	Ocular (mg/kg pc/day)	Long-term	Systemic	Not available	No hazard has been identified	
			Local	Not available	No hazard has been identified	
		Short-term	Systemic	Low risk (no threshold was derived)	No hazard has been identified	
			Local	Low risk (no threshold was derived)	No hazard has been identified	

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		PNEC	
		6484-52-2	7446-19-7
Substance		Ammonium nitrate	Zinc sulfate monohydrate
Fresh water (mg/L)		No hazard has been identified	20,6 µg/L
Salt water (mg/L)		No hazard has been identified	6,1 µg/L
STP (mg/L)		18 mg/L	100 µg/L
Fresh water sediment (mg/L)		No hazard has been identified	117,8 mg/kg sediment dw
Salt water sediment (mg/L)		No hazard has been identified	56,5 mg/kg sediment dw
Air (mg/L)		No hazard has been identified	Not available
Soil (mg/L)		No hazard has been identified	35,6 mg/kg suelo dw
Predators (secondary poisoning) (mg/L)		The substance has no bioaccumulation potential	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. 	
	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>	

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	Personal protective measures, such as personal protective equipment	Respiratory protection	Required when dusts are generated. Recommended Filter type: Filter P2 for solid and liquid particles of harmful substances.
		Hand protection	Wear suitable gloves (e.g. rubber or PVC) when handling the product for long periods of time.
		Glove material	PVC gloves Rubber gloves
		Other	Use personal protective equipment during use and handling of the product.
		Eye/face protection	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. 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.
	Thermal hazards	Not available.	
	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		
	Appearance	Granulate	
	Colour	Yellow	
	Odour	Odourless	
	pH	Not determined.	
	Melting point/freezing point	170 ° C	

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	Initial boiling point and boiling range	269 ° 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 applicable due to physico-chemical characteristics
	Upper	Not applicable due to physico-chemical characteristics
	Vapour pressure	Not applicable due to physico-chemical characteristics
	Vapour density	Not applicable due to physico-chemical characteristics
	Relative density	at 20 ° C 0.9-1.1
	Solubility	
	In water	Not available.
	Partition coefficient: n-octanol/water	Not applicable due to physico-chemical characteristics
	Auto-ignition temperature	Not available
	Decomposition temperature	Not determined.
	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	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 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

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	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	Not applicable due to physico-chemical properties
	Organic peroxides	Not applicable due to physico-chemical properties
	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 applicable due to physico-chemical properties
	Miscibility	Not applicable due to physico-chemical properties
	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	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 SO ₂ . Contamination with incompatible materials.

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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 (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)
Zinc sulfate monohydrate	7446-19-7	OECD 401 OECD 402 -	Rat Rat -	Oral Cutaneous Inhalation	DL50 > 2000 mg/kg bw. DL50 > 5000 mg/kg bw There are no available studies
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
Zinc sulfate monohydrate	7446-19-7	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
Zinc sulfate monohydrate	7446-19-7	OECD 405	Rabbit	Ocular	Category 2A. Irritant for the eyes.
Causes serious eye irritation.					

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Respiratory or skin sensitisation					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	-	-	-	There are no available studies
Zinc sulfate monohydrate	7446-19-7	OECD 429	Mouse	Cutaneous	Non sensitising
Based on available data, the classification criteria are not met.					
Germ cell mutagenicity					
Component	CAS number	Method	Species	Route	Result
Ammonium nitrate	6484-52-2	OECD 473 OECD 476	Bacteria Cromosomal aberration Mutation of mammal cells		Non mutagenic
Zinc sulfate monohydrate	7446-19-7	OECD 473 OECD 471 OECD	Cromosomal aberration Bacteria 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.
Zinc sulfate monohydrate	7446-19-7	-	-	-	There are no available studies. Insufficient information for classification .
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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	Zinc sulfate monohydrate	7446-19-7		Rat	Oral	Data conclusive but not sufficient for classification. -Effects on fertility : NOAEL >= 1500 mg/kg bw/d. -Toxicity for the development: There are no available studies
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
	Zinc sulfate monohydrate	7446-19-7	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.
	Zinc sulfate monohydrate	7446-19-7	OECD 422	Rat	Oral	Oral route: NOAEL >= 1500 mg/kg bw/d. Oral route subchronic/cronic: NOAEL: 256 mg/kg bw/d
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..			
	Zinc sulfate monohydrate	7446-19-7	Ammonium nitrate has a particle size distribution that shows that there is no inhalable fraction and the vapor pressure is negligible, so Inhalation is not a likely route of exposure. 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					
	Other information					
	Not available					

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SECTION 12		Ecological information			
12.1		Toxicity			
Aquatic toxicity					
Component	Nº CAS		Fish	Crustacea	Algae
Ammonium nitrate	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
Zinc sulfate monohydrate	7446-19-7	Short term	CL50: 0,169 mg Zn/l (Oncorhynchus Mykiss) CL50: 0,780 mg Zn/l a pH acid (Pimephales promelas) CL50: 0,330 mg Zn/l a pH neutral/basic (Pimephales promelas)	Fresh water: NOEC: 0,44 - 0,570 mg Zn/l Marine water: NOEX: 0,025 mg Zn/l	CE50: 0,413 mg Zn/l at acid pH and low hardness (Ceriodapnia dubia) CE50: > 0,53 mg Zn/l at acid pH and high hardness (Ceriodapnia dubia) CE50: 0,147 mg Zn/l at neutral/basic pH and low hardness (Ceriodapnia dubia) CE50: 0,228 mg Zn/l at neutral/basic pH and high hardness (Ceriodapnia dubia)
		Long term	Fresh water: NOEC: 0,037- 0,4 mg Zn/l Marine water: NOEX: 0,056-0,9/l	Fresh water: CL50: 0,136 mg Zn/l (Selenastrum capricornutum)	Fresh water: NOEC: 0,019 mg Zn/l ((Pseudokirchneriella subcapitata) Marine water: NOEX: 0,0078-0,67 mg Zn/l
Terrestrial toxicity					
Component	Nº CAS	Macro-organism	Micro-organism	Terrestrial plants	Other organisms
Ammonium nitrate	6484-52-2	Not available	Not available	Not available	-
Zinc sulfate monohydrate	7446-19-7	NOEC/EC10: 35,7 (Enchytraeus albidus) - 1634 mg Zn/kg bw (Lumbricus terrestris)	NOEC/EC10s: 17 mg Zn/kg bw - 2623 mg Zn/kg bw	NOECs/EC10: 32 mg Zn/kg bw (Trifolium pratense y Vicia sativa) - 5855 mg Zn/kg bw (Triticum aestivum)	-
Microbiological activity in wastewater treatment plants					
Component	Nº CAS	Toxicity to aquatic micro-organisms			
Ammonium nitrate	6484-52-2	CE50: 1000 mg/l CE10/NOEC: 180 mg/l			
Zinc sulfate monohydrate	7446-19-7	NOEC/CE10: 100 µg/L			

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

12.2	Persistence and degradability				
	Component	Nº CAS	Degradation		
	Ammonium nitrate	6484-52-2	Hydrolysis	Hydrolysis is not seen. It is not necessary.	
			Photolysis	Not necessary	
			Biodegradation	Not necessary	
	Zinc sulfate monohydrate	7446-19-7	Hydrolysis	Not necessary	
			Photolysis	Not necessary	
			Biodegradation	Not necessary	
12.3	Bioaccumulative potential				
	Component	Nº CAS	Octanol-water partition coefficient (Kow)	Bioaccumulation factor (BFC)	Observations
	Ammonium nitrate	6484-52-2	Not applicable. Inorganic substance.	-	-
	Zinc sulfate monohydrate	7446-19-7	Not applicable. Inorganic substance.	-	-
12.4	Mobility in soil				
	Component	Nº CAS	Result		
	Ammonium nitrate	6484-52-2	Being an inorganic substance it has a low adsorption potential.		
	Zinc sulfate monohydrate	7446-19-7	Kp for particulate matter and water: 11000 l/kg Kp for water and sediments: 73000 l/kg Kp for marine waters: 6010 l/kg Kp for solids-water in soil: 158.5 l/kg		
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 critcs risks are not known.				

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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). 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 HP14: Ecotoxic			
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	-			-
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.			
	Maritime transport in bulk according to IMO instruments	< 20% AM without chlorides restrictions; or <45 AN% and <2% chlorides		AN 20 - 45 % and chlorides > 2%	

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

14.7	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 UK REACH Regulation.	
	Named dangerous substances - ANNEX VI (CLP)	Contains zinc sulphate according to Index entry 030-006-00-9.	
	SEVESO Category	Not applicable.	
	Qualifying quantity (tonnes) for the application of lower-tier requirements	Not applicable.	
	Qualifying quantity (tonnes) for the application of upper-tier requirements	Not applicable.	

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

	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))	None substance listed.
	Annex II - Reportable Explosives Precursors	None substance listed.
	Regulation (EC) No 273/2004 on Drug Precursors	None substance listed.
	Regulation (EU) No. 1019/2019	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.
	Regulation (EC) No 111/2005 laying down rules for the monitoring of and trade in drug precursors between the Community and third countries.	None substance listed.
	Evaluation PBT/mPmB	Not applicable.
15.2	Chemical safety assessment	
	A chemical safety assessment has been carried out and the exposure scenarios are attached to this sheet.	
SECTION 16	Other information	
	Relevant phrases	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H318 Causes serious eye damage. H319 Causes serious eye irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

Abbreviations and acronyms	<p>ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).</p> <p>STP: Sewage treatment plant.</p> <p>OECD: Organisation for Economic Co-operation and Development.</p> <p>NOAEL: No observed adverse effect level..</p> <p>IMDG: International Maritime Code for Dangerous Goods.</p> <p>IATA: International Air Transport Association.</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals.</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society).</p> <p>DNEL: Derived No-Effect Level (UK REACH).</p> <p>PNEC: Predicted No-Effect Concentration (UK REACH).</p>
Data compared to the previous version altered	<p>Correction of errors in sections 1, 13 and 15.</p> <p>Addition of new trade names.</p> <p>Inclusion of new information in section 14.7.</p> <p>Modifications in commercial designation.</p> <p>Addition of new trade names.</p>
References	<p>This safety data sheet has been prepared in accordance with:</p> <ul style="list-style-type: none"> - 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).
Methods used for the classification of the mixture (Article 9 of Regulation (EC) No 1272/2008)	<p>Classification and Labeling in accordance with the principle of extrapolation of Regulation No. 1272/2008 (CLP).</p>
Advice on any training appropriate for workers to ensure protection of human health and the environment	<p>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.</p>

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.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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

2.2. Control of worker exposure

PROCs	2	3	4	5	8a/8b	9	13	14	15
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SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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
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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%]			
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)

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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	-	-	-	-	-	-	-	-	-
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)								

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

Combined routes, systemic, long-term	0,027	0,016	0,148	0,282	0,271	0,137	0,271	0,070	<0,01
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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.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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

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)
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SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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						
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)						

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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	-	-	-	-	-	-	-	-	-
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)								

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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
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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.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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

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

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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 processes 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									

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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	-	-	-	-	-	-	-	-	-
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

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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)
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SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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%]					

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

Eye Protection:	Yes (chemical goggles)
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Other conditions affecting workers exposure

Place of use:	Indoor
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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)
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Method	TRA Worker 3.0
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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		-	-	-	-	-	-	-	-	-

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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.										

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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.

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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)

SOLID SIMPLE INORGANIC SOLID MACRONUTRIENT-BASED FERTILISER, WITHOUT AMMONIUM NITRATE AND WITHOUT UREA

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.

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- (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.