



Safety Data Sheet

Conforms to REGULATION (EU) No 453/2010

Version:	Revision B
Issue date:	17/06/2016



GROUP 1 (A)

AMMONIUM NITRATE & AMMONIUM SULPHATE, (N ≥45 to ≤70%).

1 Identification of the substance/mixture and of the company/undertaking

1.1	Product identifier	
	Product/Trade name	Ammonium Nitrate and Ammonium Sulphate compound or blend, (Ammonium Nitrate content ≥45 to ≤70%). As indicated on packaging by PSDS Group 1A marking and nutrient inclusion.
	Common chemical name	AN based N & S, compound/blended fertilizer, complex fertilizer.
	Synonyms	N/A Mixture
	Chemical formula	N/A Mixture
	EU index number	N/A Mixture
	EC No	N/A Mixture
	CAS No.	N/A Mixture
	REACH Registration Number	N/A Mixture
	National Product Registration Number, where appropriate.	N/A
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Use of the substance/mixture	Fertilizer.
	Uses advised against	All non-agricultural fertilizer use.
1.3	Details of the supplier of the safety data sheet	
	Manufacturer/Importer/Supplier	Manufacturer
		Company name: Origin Fertilisers (UK) Limited.
		Full address: 1-3 Freeman Court, Jarman Way, Royston, Hertfordshire, SG8 5HW.
		Tel: 01763 255500
	Email address of the person responsible for SDS	Email address; andy.bell@originfertilisers.co.uk
1.4	Emergency telephone number	Tel; 01763 255500 Out of hours; 07715 801875

2 Hazards identification

2.1	Classification of the substance or mixture	
	Classification in accordance with Regulation 1272/2008 (CLP)	Ox. Sol 3, H272 Eye Irrit. 2, H319
	Hazard statement(s)	H272 May intensify fire; oxidiser. H319 Causes serious eye irritation.
	Classification in accordance with Directive 67/548 (DSD)	O; R8, Xi; R36
	Risk phrase(s)	R8 Contact with combustible material may cause fire. R36 Irritating to eyes.
2.2	Label elements	Labelling in accordance with Regulation 1272/2008 (CLP)
	Hazard pictogram(s)	 
	Signal word	Warning

2.3	Hazard statement(s)	H272 H319	May intensify fire; oxidiser. Causes serious eye irritation.
	Precautionary statement(s)	P210 P220 P280 P370+P378 P305+P351+ P338 P337+P313 P221 P264	Keep away from heat, sparks, open flames & hot surfaces. — No smoking. Keep/Store away from combustible materials & chemicals. Wear eye protection. In case of fire: Use copious quantities of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Take any precautions to avoid mixing with combustibles/. Wash hands thoroughly after handling.
	Other hazards		
	PBT/vPvB criteria		According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic.
	Other hazards which do not result in classification		
	Physical and chemical hazards		Fertilizers are basically harmless products when handled correctly. However, the following points should be noted for fire, heating and detonation. The fertilizer is not itself combustible but it can support combustion, even in the absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides and ammonia and sulphur. It has high resistance to detonation. Heating under strong confinement can lead to explosive behaviour.
	Health hazards		The fertilizers are basically harmless products when handled correctly. However, prolonged or repeated contact with skin may cause discomfort; ingestion of large quantities may give rise to gastrointestinal disorders and inhalation of dust at high concentrations may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. There are no known long term effects.
	Environmental hazards		Ammonium nitrate is a nitrogen fertilizer. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

3 Composition/information on ingredients

Hazardous ingredients						
Chemical name	CAS no.	EC no.	Generic REACH Reg No.)	Classification Regulation (EC) No. 1272/2008	Classification Directive 67/548/EEC	% (w/w)
Ammonium nitrate	6484-52-2	229-347-8	01-2119490981-27	Oxid. Solid 3, H272 Eye Irrit. 2, H319	O; R8 Xi; R36	≥45 to ≤70%
Other ingredients						
Ammonium Sulphate	7783-20-2	231-984-1	01-2119455044-46			Variable
Limestone	1317-65-3	215-279-6				Variable
<i>EC no. means EINECS or ELINCS number.</i>						

4 First aid measures

4.1	Description of first aid measures	
	General	In some cases medical attention necessary (see below).
	Inhalation	Remove from source of exposure to dusts to fresh air. Obtain medical attention if ill effects occur.
	Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Rinse mouth and then give water or milk to drink. Obtain medical attention if more than a small quantity has been swallowed. NOTE; never give an unconscious person anything to drink.
	Skin contact	Wash the affected area with water.

	Eye contact	Flush/irrigate eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Obtain medical attention if eye irritation persists.
4.2	Most important symptoms and effects, both acute and delayed	
	Acute effects	Eye irritation
	Delayed effects	None known
4.3	Indication of any immediate medical attention and special treatment needed	
	Note to physician	Inhalation of fire and thermal decomposition gases, containing oxides of nitrogen, ammonia and sulphur, can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed. Give oxygen, especially if there is blueness around the mouth.
5 Fire-fighting measures		
5.1	Extinguishing media	
	Suitable extinguishing media	If fertilizer is not directly involved in the fire Use the best means available to extinguish the fire. If fertilizer is involved in the fire Use plenty of water.
	Unsuitable extinguishing media	Do not use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
5.2	Special hazards arising from the substance or mixture	
	Specific hazards	Potential explosion hazard under fire conditions when severely confined and/or contaminated with incompatible materials (e.g. organic materials, halogenated compounds - see Section 10) Do not allow molten fertilizers to run into drains.
	Hazardous thermal decomposition and combustion products	Oxides of nitrogen, ammonia and sulphur.
5.3	Advice for firefighters	
	Special fire fighting procedures	Open doors and windows of the store to give maximum ventilation. Avoid breathing the fumes (toxic); stand up-wind of the fire. Prevent any contamination of fertilizer by oils or other combustible materials.
	Special protective equipment for fire-fighters	Use a self-contained breathing apparatus if fumes are being entered.
6 Accidental release measures		
6.1	Personal precautions, protective equipment and emergency procedures	Avoid walking through spilled product and exposure to dust.
6.2	Environmental precautions	Take care to avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses.
6.3	Methods and material for containment and cleaning up	Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean labelled open container for safe disposal, avoiding dusty conditions. Do not mix with sawdust and other combustible or organic substances. Dilute any contaminated or fine grained fertilizer with inert materials such as limestone/dolomite, mineral phosphate, gypsum, sand or dissolve in water.
6.4	Reference to other sections	See section 1 for emergency contact information, section 8 for personal protective equipment and section 13 for waste disposal.
7 Handling and storage		
	The information in this section contains generic advice and guidance. The list of identified uses given in section 1 should be considered for any use-specific information provided in the Exposure Scenario(s).	
7.1	Precautions for safe handling	Avoid excessive generation of dust. Avoid contamination by combustible (e.g. diesel oil, grease, etc.) and/or other incompatible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up. When handling the product over long periods use appropriate personal protective equipment, e.g. gloves. Carefully clean all equipment prior to maintenance and repair.

7.2	Conditions for safe storage, including any incompatibilities	<p>Store in compliance with national and local regulations.</p> <p>Locate away from the sources of heat or fire.</p> <p>Keep away from combustible materials and substances mentioned under Section 10.</p> <p>On farm, ensure that the fertilizer is not stored near hay, straw, grain, diesel oil, etc.</p> <p>When stored loose, take particular care to avoid mixing with other fertilizers.</p> <p>Ensure high standard of housekeeping in the storage area.</p> <p>Do not permit smoking and use of naked lights in the storage areas.</p> <p>Restrict stack size (according to local regulations) and keep at least 1m distance around the stacks of bagged products.</p> <p>Any building used for the storage should be dry and well ventilated.</p> <p>Where the nature of the bagged product and climatic conditions so require, store under conditions that will avoid product breakdown by thermal cycling (wide variation in temperature).</p> <p>The product should not be stored in direct sunlight to avoid physical breakdown due to thermal cycling.</p> <p>Packaging materials: Plastic synthetic materials, steel and aluminum are suitable. Avoid use of copper and zinc.</p>
7.3	Specific end use(s)	As a fertilizer.

8 Exposure controls/personal protection	
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The information in this section contains generic advice and guidance. The list of identified uses given in section 1 should be considered for any use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters	
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	Regulated Exposure limit values Recommended occupational and consumer exposure limit values (following from the performed CSA):	<p>No specific EU official limit.</p> <p>UK EH40 Workplace Exposure Limits, (WEL's),</p> <table border="1"> <thead> <tr> <th>Components.</th> <th>Type.</th> <th>Value.</th> <th>Form.</th> </tr> </thead> <tbody> <tr> <td>Limestone (CAS 1317-65-3)</td> <td>TWA, (Time Weighted Average)</td> <td>4mg/m³</td> <td>Respirable</td> </tr> <tr> <td></td> <td></td> <td>4mg/m³</td> <td>Respirable dust</td> </tr> <tr> <td></td> <td></td> <td>10mg/m³</td> <td>Inhalable</td> </tr> <tr> <td></td> <td></td> <td>10mg/m³</td> <td>Inhalable Dust</td> </tr> </tbody> </table> <p>Exposure pattern Derived No Effect Level (DNEL)</p> <table border="1"> <thead> <tr> <th></th> <th>Workers</th> <th>General population</th> </tr> </thead> <tbody> <tr> <td>Oral</td> <td>Not applicable</td> <td>12.8 mg/kg bw/day</td> </tr> <tr> <td>Dermal</td> <td>21.3 mg/kg bw/day</td> <td>12.8 mg/kg bw/day</td> </tr> <tr> <td>Inhalation</td> <td>37.6 mg/m³</td> <td>11.1 mg/m³</td> </tr> </tbody> </table> <p>The long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance do not occur.</p>					Components.	Type.	Value.	Form.	Limestone (CAS 1317-65-3)	TWA, (Time Weighted Average)	4mg/m ³	Respirable			4mg/m ³	Respirable dust			10mg/m ³	Inhalable			10mg/m ³	Inhalable Dust		Workers	General population	Oral	Not applicable	12.8 mg/kg bw/day	Dermal	21.3 mg/kg bw/day	12.8 mg/kg bw/day	Inhalation	37.6 mg/m ³	11.1 mg/m ³
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PNEC	fresh water; mg/l	marine water; mg/l	Intermittent use/release; mg/l	Sewage treatment plant; mg/l	Freshwater sediment mg/kg/dw	Soil mg/kg/dw																																
Ammonium nitrate	0.45	0.045	4.5	18	Not given	Not given																																
Ammonium Sulphate	0.312	0.0312	0.53	16.18	3	62.6																																
Limestone	Not given	Not given	Not given	Not given	Not given	Not given																																

8.2	Exposure controls Appropriate engineering measures Hygienic measures Individual protection Respiratory system Skin and body Hands Eyes	<p>Avoid high dust concentration and provide ventilation where necessary. Risk of inhalation must be minimised as much as possible.</p> <p>When handling the product do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the working period.</p> <p>If dust concentration is high and/or ventilation is inadequate, use suitable dust mask or respirator with an appropriate filter; EN 136, EN 140, EN143, EN149, Filters P2</p> <p>Working clothes.</p> <p>Wear suitable gloves (e.g. plastic, rubber or leather) when handling the product over long periods.</p> <p>Recommended: safety glasses with side shields (EN 166). Wear safety glasses with side protection or safety goggles, (EN166).</p>
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	Environmental exposure controls	Avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses. Do not flush into surface water or sanitary sewer system.
9	Physical and chemical properties	
9.1	Information on basic physical and chemical properties	
	Appearance	White or cream granules or prills and translucent or brown granules and light grey granules, unless deliberately coloured during manufacture.
	Odour	Odourless.
	Odour threshold	Not applicable.
	pH	pH water solution (100 g/l at 20°C) > 4.5.
	Melting point/freezing point	Not determined and depending on moisture content, though pure Ammonium Nitrate melts around 170°C.
	Initial boiling point and boiling range	Not determined.
	Flash point	Not applicable.
	Evaporation rate	Not applicable
	Flammability (solid, gas)	Non flammable.
	Upper/lower flammability or explosive limits	Not applicable.
	Explosive properties	The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.
	Auto-ignition temperature	Not applicable.
	Decomposition temperature	Starts to decompose above approx. 170°C
	Minimum ignition energy	Not applicable
	Oxidising properties	Oxidizer, can support combustion and may intensify fire.
	Critical temperature	Not applicable
	Relative density	Not applicable.
	Density	Not determined.
	Loose bulk density	Normally between 1000-1050 kg/m ³ .
	Vapour pressure at 20°C	Considered negligible (based on melting and boiling point).
	Vapour density	Not applicable
	Partition coefficient (n-octanol/water)	Not applicable
	Viscosity	Not applicable to solids
	Mean particle size	2-4mm
	Water solubility	>100 g/l. Hygroscopic - readily picks up moisture from the air.
	Surface tension	Not surface active (based on molecular structure)
9.2	Other information	
	Miscibility	Not applicable
	Fat solubility	No available
	Gas group	Not applicable
	Remarks	Molecular weight 80 for main ingredient ammonium nitrate.
10	Stability and reactivity	
10.1	Reactivity	Stable under recommended storage and handling conditions (see section 7, handling and storage).
10.2	Chemical stability	Stable under recommended storage and handling conditions (see section 7, handling and storage).
10.3	Possibility of hazardous reactions	When heated, can decompose.





10.4	Conditions to avoid	Heating above 170°C (decomposes to gases). Contamination by incompatible materials. Unnecessary exposure to the atmosphere. Sources of heat or fire close to the product. Heating under confinement. Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.
10.5	Incompatible materials	Combustible materials, reducing agents, acids, alkalis, sulphur, chlorates, chlorides, chromates, nitrites, permanganates, metallic powders and substances containing metals such as copper, nickel, cobalt, zinc and their alloys.
10.6	Hazardous decomposition products	For fire situation: see section 5. When strongly heated, it melts and decomposes releasing toxic fumes (e.g. NO _x , ammonia) When in contact with alkaline material such as lime, may give off ammonia gas. See also Sections 2 and 9.

11	Toxicological information
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11.1	Information on toxicological effects
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	Toxicokinetics, metabolism and distribution	Not available	
	Acute toxicity	Ingredients	
	Acute oral toxicity	Ammonium nitrate	LD50: 2950 mg/kg bw (OECD 401)
	Acute dermal toxicity	Ammonium nitrate	LD50: > 5000 mg/kg bw (OECD 402)
	Acute inhalation toxicity	Ammonium nitrate	LC50: > 88.8 mg/l (no guideline followed)
	Acute oral toxicity	Ammonium sulphate	LD50: 2840 mg/kg, rat.
	Acute oral toxicity	Ammonium sulphate	LD50: 4540 mg/kg, rat.
	Acute oral toxicity	Ammonium sulphate	LD50: 640 mg/kg, mouse.
	Acute oral toxicity	Ammonium sulphate	LDLO: 3500 mg/kg, domestic animals.
	Acute dermal toxicity	Ammonium sulphate	LD50: >2000 mg/kg, rat.
	Acute inhalation toxicity	Ammonium sulphate	>1000 mg/m ³ , (8 hours TWA), rat.
	Local effects		
	Skin irritation	Product	Not irritating (OECD 404)
	Eye irritation	Product	Irritating (OECD 405)
	Skin sensitisation	Not sensitizing (OECD 429, with magnesium nitrate, nitric acid ammonium calcium salt, sodium nitrate). Prolonged contact may cause irritation and dryness from Limestone.	
	Other		
	Sub-acute toxicity	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate) Oral 52-week NOAEL = 256 mg/kg bw/day (OECD 453, with ammonium sulphate) Inhalation 2-weeks NOAEL ≥ 185 mg/m ³ (OECD 412)	
	Mutagenicity	Negative (OECD 471, 473, with nitric acid ammonium calcium salt)	
	Reproductive toxicity	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)	
Carcinogenicity	Not carcinogenic (OECD 453, with ammonium sulphate)		
Remarks	Adverse health effects are considered unlikely when the product is handled and used correctly. If large quantities are ingested may give rise to gastro-intestinal disorders. No new or increased hazards of sub-acute toxicity, mutagenicity, reproductive toxicity and/or carcinogenicity are introduced from the inclusion of Ammonium Sulphate and Limestone in the dry mixture/blend. Limestone dust if inhaled over a prolonged or extended period can, by respirable dust, lead to respiratory system damage and disease. Crystalline silica is present in limestone at around 2% by content, (Ref; HSE INDG 463), respirable crystalline silica has been associated with the lung disease silicosis.		

12 Ecological information				
12.1	Toxicity	Ammonium nitrate	Fish (short-term)	48-h LC50: 447 mg/l (no guideline followed)
			Fish (long-term)	No data
			Daphnia magna (short-term)	48-h EC50: 490 mg/l (no guideline followed, with potassium nitrate)
			Daphnia magna (long-term)	No data
			Algae	10-d EC50: > 1700 mg/l (seawater, no guideline followed, performed with potassium nitrate)
			Inhibition of microbial activity	3-h EC50: >1000 mg/l, NOEC: 180 mg/l (OECD 209, with sodium nitrate)
	Ammonium sulphate	Toxicity to fish.	LC50: 6.6 - 39.2 mg/l, species Oncorhynchus Mykiss, (rainbow trout), 96 hour period.	
			LC50; >20 mg/l, species Pimephales Promelas, (fathead minnow), 96 hour period.	
			LC50; >20 mg/l, species Daphnia Magna, (water flea), 96 hour period.	
12.2	Persistence and degradability			
		Ingredient name:	Ammonium Nitrate	
		Biodegradation	Standard test is not applicable as the substance is inorganic.	
		Hydrolysis	No hydrolysable group is present, will completely dissociate into ions.	
		Ingredient name:	Ammonium Sulphate	
		Biodegradation	Standard test is not applicable as the mixture is inorganic.	
		Hydrolysis	Not applicable.	
		Ingredient name.	Limestone.	
		Biodegradation	Limestone is non-volatile and inert, it is resistant to degradation and will persist in the environment.	
		Hydrolysis	Not applicable.	
		12.3	Bioaccumulative potential	Octanol-water partition coefficient (Kow)
Bioconcentration factor (BCF)	Low potential for bioaccumulation, (based on ingredient properties of Ammonium Nitrate and Ammonium Sulphate).			
12.4	Mobility in soil	<p>Low potential for adsorption (based on mixture properties);</p> <p>Ammonium Nitrate - Very soluble in water. The NO₃⁻ ion is mobile. The NH₄⁺ ion is adsorbed by soil.</p> <p>Ammonium Sulphate - easily soluble in cold water.</p> <p>Limestone is resistant to degradation and will persist in the environment.</p>		
12.5	Results of PBT and vPvB assessment	<p>According to Annex XIII of Regulation (EC) No 1907/2006;</p> <p>Ammonium Nitrate - no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic.</p> <p>Ammonium Sulphate - is not considered to be PBT or vPvB.</p> <p>Limestone - not applicable.</p>		
12.6	Other adverse effects	Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters.		
13 Disposal considerations				
13.1	Waste treatment methods	In accordance with local and national regulations, disposed by landfill or incineration. Controlled biodegradation in waste water treatment is possible.		
	Container	Containers should be cleaned by appropriate method and then re-used or disposed by landfill or incineration as appropriate, in accordance with local and national regulations. Do not remove label until container is thoroughly cleaned.		
	Methods of disposal	<p>Depending on degree and nature of contamination dispose of by use as fertilizer on farm, as raw material for liquid fertilizer, or to an authorised waste facility.</p> <p>Do not empty into drains; dispose of this material and its container in a safe way and in accordance with all applicable local and national regulations.</p> <p>See chapters 06 03 and 06 10 of the list of wastes (Commission decision 2000/532/EC)</p>		

Package waste disposal		Empty the bag by shaking to remove as much as possible of its contents. If approved by local authorities, empty bags may be disposed of as non-hazardous material or returned for recycling.				
<i>Note: see section 7 for safe handling and storage</i>						
14 Transport information						
		ADR/RID	ADN/ADNR	IMDG	ICAO/IATA	
14.1	UN Number	UN2067	UN2067	UN2067	UN2067	
14.2	UN Proper shipping name	Ammonium nitrate based fertilizer	Ammonium nitrate based fertilizer	Ammonium nitrate based fertilizer	Ammonium nitrate based fertilizer	
14.3	Transport hazard class(es)	5.1	5.1	5.1	5.1	
14.4	Packing group	III	III	III	III	
	Label					
14.5	Environmental hazards	Not applicable.				
14.6	Special precautions for user	None.				
14.7	Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable				
15 Regulatory information						
15.1	Safety, health and environmental regulation/legislation specific for the substance or mixture					
	Other regulations	EC 2003/2003, 96/82 EC; Seveso <i>Directive</i> , Control of Major Accident Hazards Regulations 2015, (COMAH) - UK Regulations. Regulation EC 1907/2006 (REACH), EC 2003/2003, 96/82 EC. Decision No 1348/2008/EC of the European Parliament & of the Council and Commission Regulation (EC) No 552/2009. Notification and Marking of Sites Regulations 1990, (NAMOS), (as amended 2013).				
15.2	Chemical safety assessment	In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for this substance.				
16 Other information						
The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.						
Classification in accordance with Regulation 1272/2008, as listed in Annex VI:		None.				
Classification in accordance with Regulation 1272/2008, by self-classification based on the performed CSA		Ox. Sol 3, H272 Eye Irrit. 2, H319				
Risk phrases		R8 Contact with combustible material may cause fire. R36 Irritating to eyes.				
Symbols		O oxidizing Xi irritant				
Abbreviations and acronyms		Oxidizing solids category 3 (Ox. Sol 3) Eye irritation Category 2 (Eye Irrit. 2) May intensify fire; oxidiser (H272) Causes serious eye irritation (H319) CLP - Classification, Labelling and Packaging Regulation, (Regulation EC No. 1272/2008). CAS Number - Chemical Abstracts Number, substance registration number. EC No. - European Commission substance identification number.				

	<p>% w/w - Percentage weight for weight; percentage by weight of solute in total weight of solution.</p> <p>PBT - Persistent, bioaccumulative, toxic.</p> <p>vPvB - Very persistent, very bioaccumulative.</p> <p>DNEL - Derived no effect level.</p> <p>PNEL - Prescribed no effect level.</p> <p>LC50 - Lethal concentration for 50% of subjects.</p> <p>LD50 - Lethal dose for 50% of subjects.</p> <p>OECD - Organisation for Economic Co-operation and Development.</p> <p>LOAEL - Lowest observed adverse effect level.</p> <p>NOAEL - No observed adverse effect level.</p> <p>EC50 - Effective Concentration for 50% of subjects.</p> <p>NOEC - No observed effect concentration.</p> <p>LTEL - Long term exposure limit.</p> <p>STEL - Short term exposure limit</p> <p>TWA - Time weighted average.</p> <p>mg/kg/bw/day - mg/kg of body weight per day.</p> <p>mg/kg/dw - mg/kg of dry weight.</p>
Training advice	Operators should be provided with information, instruction, training and supervision relative to this Safety Data Sheet and any subsequent COSHH assessment produced by his/her employer.
Date of previous SDS	08/07/2010
Modifications in this version	
References	EFMA/Fertilizers Europe Guidance documents, TFI HPV data; NOTOX gap analysis
<p>Disclaimer</p> <p>The information in this Safety Data Sheet is given in good faith and belief in its accuracy based on our knowledge of the substance/preparation concerned at the date of publication. It does not imply the acceptance of any legal liability or responsibility whatsoever by Origin Fertilisers for the consequences of its use or misuse in any particular circumstances.</p>	