



Safety Data Sheet

Conforms to REGULATION (EU) No. 453/2010

Version:	Revision B
Issue date:	20/06/2016

GROUP 6

UREA

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

1.1 Product Identifier

Product/Trade name	Urea based straight nitrogen fertilizers, (and mixtures of urea with diluents). As indicated on packaging by PSDS Group 6 marking and nutrient inclusion.
Common chemical name	Urea fertilizer
Synonyms	GUREA/PUREA
Chemical formula	Not given.
EU index number (Annex 1)	Not listed.
EC No	200-315-5
CAS No.	57-13-6
REACH Registration Number.	01-2119463277-33
National Product Registration Number, where applicable	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)	Non-hazardous.
Hazard Statement(s)	Not applicable
Classification in accordance with Directive 67/548 (DSD)	Not applicable
Risk phrase(s)	Not applicable

2.2 Label elements

Hazard pictogram(s)	None.
Signal word	Not applicable
Hazard Statement(s)	None.

2.3	Precautionary Statements Other hazards PBT/vPvB criteria Other hazards which do not result in classification Physical and chemical hazards Health hazards Environmental hazards	None. Ensure adequate ventilation, especially in confined areas. Substance characteristics do not meet screening criteria. Straight Urea fertilizers are non-hazardous, non-combustible and non-oxidising. However, the following points should be noted for fire and thermal decomposition products: Hazardous decomposition products formed under fire conditions; Carbon monoxide, (CO), Carbon dioxide, (CO ₂), Nitrogen oxides, (NO _x), ammonia, nitrous gases. 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 gastro-intestinal disorders and inhalation of dust at high concentrations may cause irritation of the nose; mucous membranes and upper respiratory tract with symptoms such as sore throat and coughing. Prolonged eye contact may cause some irritation. Persons who may have inhaled hazardous decomposition nitrous gases must be laid down and kept rested. Call a doctor immediately. Persons who have inhaled fire effluents require medical observation for at least 48 hours. Symptoms of poisoning may even occur several hours after the incident. Urea is a nitrogen fertilizer. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters. See Section 12. Product forms a slippery surface when combined with water.
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3 Composition/information on ingredients						
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Substance.						
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)
Other ingredients						
Urea.	57-13-6	200-315-5	01-2119463277-33			99 - 100%
<i>EC no. means EINECS or ELINCS number.</i>						

4.0 First aid measures	
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4.1 Description of first aid measures	
General	If symptoms persist or in case of doubt, seek medical advice.
Inhalation	May cause irritation to the mucous membranes. Supply fresh air, consult a doctor in the case of pain. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion	Do not induce vomiting unless instructed explicitly by medical staff. Rinse out mouth and then drink plenty of water. If symptoms persist, consult doctor. NOTE; never give an unconscious person anything to drink.
Skin contact	Wash the affected area with soap and water. Obtain medical attention if symptoms persist.
Eye contact	Rinse opened eye for several minutes under running water, also under the eyelids. Remove contact lenses if present and easy to do so. Continue rinsing. Obtain medical attention if symptoms persist.

4.2	Most important symptoms and effects, both acute and delayed	
	Acute effects	Gastrointestinal disorder.
	Delayed effects	
4.3	Indication of any immediate medical attention and special treatment needed	
	Note to physician	Treat symptomatically. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
5.0 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.
	Unsuitable extinguishing media	If fertilizer is involved in the fire Use plenty of water. 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	Where combustible material is the source of the fire, extinguish this source as a matter of priority. Do not allow molten fertilizers to run into drains. If fire run-off water enters any water course or drains, inform the appropriate water authority immediately.
	Hazardous thermal decomposition and combustion products	Hazardous decomposition products formed under fire conditions; Carbon monoxide, (CO), Carbon dioxide, (CO ₂), Nitrogen oxides, (NO _x), ammonia, nitrous gases. Persons who may have inhaled nitrous gases must be laid down and kept rested. Call a doctor immediately. Persons who have inhaled fire effluents require medical observation for at least 48 hours. Symptoms of poisoning may even occur several hours after the incident.
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. Do not inhale explosion gases or combustion gases.
6.0 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.
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.
7.0 Handling and storage		
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 Locate away from the sources of heat or fire. Keep away from combustible materials and substances mentioned under Section 10. On farm, ensure that the fertilizer is not stored near hay, straw, grain, diesel oil, etc. When stored loose, take particular care to avoid mixing with other fertilizers. Ensure high standard of housekeeping in the storage area. Do not permit smoking and use of naked lights in the storage areas. Restrict stack size (according to local regulations) and keep at least 1m distance around the stacks of bagged products. Any building used for the storage should be dry and well ventilated. 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). 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.

8.0 Exposure controls/personal protection

8.1 Control parameters

Regulated Exposure limit values Recommended occupational and consumer exposure limit values (following from the performed CSA): For Urea	Contains no substances with occupational exposure limit values. Exposure pattern Derived No Effect Level (DNEL) <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 35%; text-align: center;">Workers</td> <td style="width: 35%; text-align: center;">General population</td> </tr> <tr> <td>Oral</td> <td style="text-align: center;">42 mg/kg bw/day</td> <td style="text-align: center;">42 mg/kg bw/day</td> </tr> <tr> <td>Dermal</td> <td style="text-align: center;">580 mg/kg bw/day</td> <td style="text-align: center;">580 mg/kg bw/day</td> </tr> <tr> <td>Inhalation</td> <td style="text-align: center;">292 mg/m³</td> <td style="text-align: center;">125 mg/m³</td> </tr> </table> The long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance do not occur.							Workers	General population	Oral	42 mg/kg bw/day	42 mg/kg bw/day	Dermal	580 mg/kg bw/day	580 mg/kg bw/day	Inhalation	292 mg/m ³	125 mg/m ³
	Workers	General population																
Oral	42 mg/kg bw/day	42 mg/kg bw/day																
Dermal	580 mg/kg bw/day	580 mg/kg bw/day																
Inhalation	292 mg/m ³	125 mg/m ³																
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												
Urea.	0.47	0.047	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 Environmental exposure controls	<p>Avoid high dust concentration and provide ventilation where necessary.</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>Use appropriate safety eye wear depending on the task being carried out. Wear safety glasses with side protection or safety goggles, (EN166).</p> <p>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.</p>
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9.0 Physical and chemical properties		
Appearance		Solid, white coloured granules or prills unless deliberately coloured during manufacture.
Odour		Odourless.
Odour threshold		Not applicable
pH		7.2, (100g/l at 20°C).
Melting point/freezing point		133°C, (DIN 53181).
Initial boiling point and boiling range		Not applicable.
Flash point		Not applicable.
Flammability (solid, gas)		Substance is not flammable.
Upper/lower flammability or explosive limits		Not determined.
Explosive properties		Product does not present an explosion hazard.
Auto-ignition temperature		Product is not self-igniting.
Decomposition temperature		>132°C
Minimum ignition energy		Not applicable
Oxidising properties		Not classified as an oxidizer.
Critical temperature		Not applicable
Relative density		Not determined.
Density		1.33g/cm ³ at 20°C.
Loose bulk density		750 - 900kg/m ³
Vapour pressure at 25°C		0.002kPa
Vapour density		Not applicable
Partition coefficient (n-octanol/water)		1.73 log POW at 20°C.
Viscosity		Not applicable
Mean particle size		2-4mm
Water solubility		~1000g/l at 20°C. Hygroscopic; readily draws moisture from the air.
Surface tension		No information available.
Other information		
	Miscibility	Not applicable
	Fat solubility	Not available
	Gas group	Not applicable
	Remarks	No further relevant information available.
10.0 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	Under normal conditions of handling and storage, hazardous reactions will not occur. To avoid thermal decomposition; do not overheat. Thermal decomposition starts at ~180 to 190°C.
10.4	Conditions to avoid	Heat. Heating above 180°C will result in thermal decomposition, (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	Ammonium Nitrate and Ammonium Nitrate based fertilizers, strong oxidants, acids, nitrites and other nitrosing agents. Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

10.6	Hazardous decomposition products	Under normal conditions of handling and storage, hazardous decomposition products should not be produced. For fire situation: see section 5. When strongly heated, it melts and decomposes releasing toxic fumes (e.g. Carbon monoxide, (CO), Carbon Dioxide, (CO ₂), Nitrogen Oxides, (NO _x), Ammonia and nitrous gases). See also Sections 2 and 9.
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11.0 Toxicological information		
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11.1 Information on toxicological effects		
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	Toxicokinetics, metabolism and	Not available		
	Acute toxicity	Ingredients		
	Acute oral toxicity	Urea.	LD50: 14300 mg/kg, rat, male.	
	Acute dermal toxicity			
	Acute inhalation toxicity			
	Local effects			
	Skin irritation	Product; Urea.	No irritating effect.	
	Eye irritation	Product; Urea.	No irritating effect.	
	Sensitisation	No known significant effects or critical hazards to skin or respiratory systems.		
	Other	For main ingredient.		
	Sub-acute toxicity	Oral 52-week LOAEL = 2250 mg/kg bw/day, (rat). Specific Target Organ Toxicity - Single exposure; No classification. Repeated exposure; No classification. Aspiration hazard; Not relevant. Toxicokinetics, metabolism and distribution; This substance and its metabolites do not accumulate in the organism but are excreted completely. Inhalation; Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.		
	Mutagenicity	No known significant effects or critical hazards.		
Reproductive toxicity	No known significant effects or critical hazards.			
Carcinogenicity	No known significant effects or critical hazards.			
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.			

12.0 Ecological information		
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12.1	Toxicity	Contains no substances known to be hazardous to the environment.		
	Urea.	Toxicity to fish.	LC50: 6810mg/l, species Leuciscus Idis, (Orfe), 96 hour period.	
		Toxicity to daphnia and other aquatic invertebrates.	LC50; 10000 mg/l, species Daphnia Magna, (water flea), 48 hour period.	
			NOEC 47 mg/l, species Microcystis Aeruginosa, (algal bloom), 8 day period.	
	12.2	Persistence and degradability	Ingredient name Urea.	
		Biodegradation	Readily biodegradable. No known significant effects or critical hazards.	
		Hydrolysis	Not applicable.	
	12.3	Bioaccumulative potential	Octanol-water partition coefficient (Kow)	log Pow; <0, not lipophilic, no bioaccumulation.
			Bioconcentration factor (BCF)	No bioaccumulation (based on main ingredient properties).
	12.4	Mobility in soil	Urea; Soluble in water. Predicted to have a high mobility in soil. No further relevant information available.	
12.5	Results of PBT and vPvB assessment	Urea; Substance characteristics do not meet PBT or vPvB screening criteria.		

12.6	Other adverse effects	Urea is a nitrogen fertilizer. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters. No known significant effects or critical hazards.				
13.0 Disposal considerations						
	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	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. 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. See chapters 06 03 and 06 10 of the list of wastes (Commission decision 2000/532/EC)				
	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>						
14.0 Transport information						
		ADR/RID	ADN/ADNR	IMDG	ICAO/IATA	
14.1	UN Number	Not classified				
14.2	UN Proper shipping name	Not applicable.	Not applicable.	Not applicable.	Not applicable.	
14.3	Transport hazard class(es)	Not classified				
14.4	Packing group	Not applicable.				
	Label	Not applicable.				
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.				
15.0 Regulatory information						
15.1	Safety, health and environmental regulation/legislation specific for the substance or mixture					
	Other 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.				
15.2	Chemical safety assessment	In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for the main ingredient Urea as a substance.				
16.0 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	Not classified.
Risk phrases	None.
Symbols	None.
Abbreviations and acronyms	<p>Oxidizing solids category 3 (Ox. Sol 3) May intensify fire; oxidizer (H272) Eye irritation Category 2 (Eye Irrit. 2) 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. % w/w - Percentage weight for weight; percentage by weight of solute in total weight of solution.</p> <p>PBT - Persistent, bioaccumulative, toxic. vPvB - Very persistent, very bioaccumulative. DNEL - Derived no effect level. PNEL - Prescribed no effect level. LC50 - Lethal concentration for 50% of subjects. LD50 - Lethal dose for 50% of subjects. OECD - Organisation for Economic Co-operation and Development. LOAEL - Lowest observed adverse effect level. NOAEL - No observed adverse effect level. EC50 - Effective Concentration for 50% of subjects. NOEC - No observed effect concentration. LTEL - Long term exposure limit. STEL - Short term exposure limit TWA - Time weighted average. mg/kg/bw/day - mg/kg of body weight per day. 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

Disclaimer

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.