Safety Data Sheet

Conforms to REGULATION (EU) No. 453/2010

Version:	Revision 1
Issue date:	06/08/21

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: Mole Valley Forage Services Ltd
		Full address: 8 shed, North Side, South dock, Alexandra dock, Newport, Gwent, NP20 2NP.
		Tel: 01769 576450
	Email address of the person responsible for SDS	Email address: reece.woolgar@mvfs.co.uk
1.4	**Emergency telephone number**	Tel; 01769 576227
		Out of hours; 07814284067

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.

	Precautionary Statements	None.
2.3	**Other hazards**	Ensure adequate ventilation, especially in confined areas.
	PBT/vPvB criteria	Substance characteristics do not meet screening criteria.
	Other hazards which do not result in classification	
	Physical and chemical hazards	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 momoxide, (CO), Carbon dioxide, (CO2), Nitrogen oxides, (NOx), ammonia, nitrous gases.
	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 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.
	Environmental hazards	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.

3 Composition/information on ingredients

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%

EC no. means EINECS or ELINCS number.

4.0 First aid measures

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 **Delayed effects**	Gastrointestinal disorder.
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. **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	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 momoxide, (CO), Carbon dioxide, (CO_2), Nitrogen oxides, (NOx), 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**	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 Section10. 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. Packaging materials: Plastic synthetic materials, steel and aluminum are suitable. Avoid use of copper and zinc.
7.3	**Specific end use(s)**	As a fertilizer.

8.0	**Exposure controls/personal protection**	
8.1	**Control parameters**	
	Regulated Exposure limit values	Contains no substances with occupational exposure limit values.
	Recommended occupational and consumer exposure limit values (following from the performed CSA): **For** Urea	Exposure pattern Derived No Effect Level (DNEL) 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/m3 — 125 mg/m3 The long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance do not occur.

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	Avoid high dust concentration and provide ventilation where necessary.
	Hygienic measures	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.
	Individual protection	
	Respiratory system	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
	Skin and body	Working clothes.
	Hands	Wear suitable gloves (e.g. plastic, rubber or leather) when handling the product over long periods.
	Eyes	Use appropriate safety eye wear depending on the task being carried out. Wear safety glasses with side protection or safety goggles, (EN166).
	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.

9.0	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/cm³ at 20°C.
	Loose bulk density	750 - 900kg/m3
	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.	

11.0	**Toxicological information**		
11.1	**Information on toxicological effects**		
	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 it's 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**		
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 biodegradeable. 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.
	Note: see section 7 for safe handling and storage	

14.0	**Transport information**					
		ADR/RID	**ADN/ADNR**	**IMDG**	**ICAO/IATA**	
14.1	**UN Number**	Not classifed				
14.2	**UN Proper shipping name**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	
14.3	**Transport hazard class(es)**	Not classifed				
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	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. 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.
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 Fetrtilisers for the consequences of its use or misuse in any particular circumstances.