

Safety Data Sheet

According to Commission Regulation (EU) No 2015/830

Issue date 31/05/2016
 Issue 6
 Review date 17/08/2017
 Review 7

Urea

SECTION 1 Identification of the substance/mixture and of the company/undertaking							
1.1	Product identifier						
	Product commercial name	Granular Urea, Urea Crystal, Industrial Urea, Animal Feeding Urea					
	Chemical name	Urea					
	Other names	Carbamide, Carbonyldiamide					
	Chemical formula	CH4N2O					
	EU index number (Appendix 1)	Not applicable					
	CE No	200-315-5					
	CAS No.	57-13-6					
	REACH or National product registration number	01-2119463277-33-0022					
1.2	Relevant identified uses of the substance or mixture and uses advised against						
	Identified uses	Fertilizer, formulation of preparations, as intermediate substance in various industrial processes, auxiliary agent in processing aids, laboratory chemical, cleaning product, animal feed additive, treatment and reduction of NOx, cosmetics, etc.					
	Uses advised against						
1.3	Details of the supplier of the safety data sheet						
	Company name	FERTIBERIA. S.A.					
	Company address	Paseo de la Castellana, 259 D. Plantas 47 y 48 - 28046 Madrid					
	Company telephone number	Central: 91.586.62.00; Palos factory: 959.49.24.00; Puertollano factory: 926.44.93.00					
	Company email for SDS	reachfertiberia@fertiberia.es					
1.4	Emergency telephone number	Palos factory: 959.49.24.00; Puertollano factory: 926.44.93.00					
SECTION 2 Hazards identification							
2.1	Classification of the substance or mixture*	According to Regulation EC 1272/2008 [CLP] Not Classified					
2.2	Label elements	Pictograms	Signal word	Hazard statements	Precautionary Statements		
		-	-	-	-		
2.3	Other hazards						
	PBT/vBvP Criteria	Not available					
	<u>Other hazards that do not involve product classification</u>						
	Physical and chemical hazards	Not combustible. Melts when heated. When strongly heated it decomposes releasing toxic fumes that contain NOx, CO2 and ammonia.					
	Health hazards	Urea is basically harmless when handled correctly. Nevertheless, the following points should be observed: Contact with skin and eyes: Prolonged contact may cause discomfort. Ingestion: Small quantities are unlikely to cause toxic effects. In large quantities it can produce disorders in the gastrointestinal tract. Inhalation: High concentrations of dust in the air may cause nose and upper respiratory tract irritation with sore throat and cough symptoms. Long term local effects: Unknown adverse effects. Other: Fire and heating: Inhaling decomposition gases containing nitrogen and ammonium oxides can cause irritation and have corrosive effects on the respiratory system.					
	Environmental hazards	Urea is a nitrogen fertilizer. Heavy spillage may cause an adverse environmental impact such as eutrophication (developing undesirable flora) in confined surface waters. Due to chemical reactions in the soil, ammonia can be released. (See section 12).					
* To understand the full meaning of hazard statements (H): see section 16							
SECTION 3 Composition/information on ingredients							
3.1	Name	CE No.	CAS No.	% (w/w)	IUPAC name	Classification Regulation 1272/2008	Specific concentration limits
	Urea	200-315-5	57-13-6	>98%	Urea	-	

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SECTION 4		First aid measures
4.1	Description of first aid measures	
	General	No immediate medical attention is necessary..
	Inhalation	Remove the person from the point of exposure to the dust. Seek medical attention if large amounts of dust are inhaled.
	Ingestion	Do not induce vomiting. Rinse the mouth and give water or milk to drink. Seek medical attention if more than a small quantity has been ingested.
	Contact with skin	Wash the affected area with water.
	Contact with eyes	Wash or rinse the eyes with plenty of water for at least 10 minutes, including behind the eyelids. Remove contact lenses if present and easy to do. Seek medical attention if eye irritation persists.
4.2	Most important symptoms and effects, both acute and delayed	
		Some effects on the lungs may be delayed.
4.3	Indication of any immediate medical attention and special treatment needed	
		Inhalation of gases, from a fire or thermal decomposition, that contain nitrogen and ammonium oxides may cause irritation and have corrosive effects on the respiratory system.
SECTION 5		Firefighting measures
5.1	Extinguishing media	
	Suitable extinguishing media	Use plenty of water.
	Unsuitable extinguishing media	
5.2	Special hazards arising from the substance or mixture	
	Special hazards	Melted fertiliser must not be allowed to enter drains.
	Thermal decomposition or product combustion hazards	Nitrogen and ammonium oxides and carbon dioxide
5.3	Advice for firefighters	
	Specific firefighting methods	Open doors and windows in the area to give maximum ventilation. Avoid breathing the smoke (toxic). Position yourself upwind of the fire. Avoid any contamination of the fertilizer with incompatible materials.
	Special protective equipment for firefighting	Use self contained breathing apparatus in case of smoke.
SECTION 6		Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures	
		Avoid walking on the spilled product and exposure to the dust.
6.2	Environmental precautions	
		Take care to prevent contamination of water courses and drains and inform the competent authorities in case of accidental contamination of water courses.
6.3	Methods and material for containment and cleaning up	
		Any spillage of fertiliser should be quickly cleaned up, swept and placed in a clean, open receptacle and labelled for safe disposal avoiding the formation of dust.
6.4	Reference to other sections	
		See section 1 for contact data, section 8 for PPE and section 13 for waste disposal.
SECTION 7		Handling and storage
7.1	Precautions for safe handling	
		Prevent the excessive generation of dust. Prevent contamination with combustible materials (e.g. gas-oil, greases, etc.) and other incompatible materials (e.g. Ammonium Nitrate). Avoid the unnecessary exposure of the product to the atmosphere to prevent moisture absorption. When the product is handled for long periods, use appropriate personal protective equipment, e.g. gloves. Carefully clean the installations before carrying out maintenance and repair operations.
7.2	Conditions for safe storage, including any incompatibilities	
		Place away from sources of heat and flames. Always keep away from combustible materials and substances mentioned in section 10. In the field, ensure that the fertilizer is not stored near hay, straw, grain, gas-oil, etc. When stored in bulk, avoid mixing with other incompatible fertilizers. In the storage area, ensure that strict tidiness and cleanliness standards are complied with. Do not allow smoking or the use of naked portable lamps in the storage area. Restrict the size of piles and stacks (in accordance with regulations in force) and leave a minimum free space of 1 metre around the piles or stacks of sacks. Any building used for storage should be dry and well ventilated.
	Recommended packaging materials	Suitable materials for containers are: stainless steel AISI 304 and 316, glass and synthetic plastics. Do not use non-ferrous metals and alloys (copper and its alloys, zinc, lead).
7.3	Specific end use(s)	
		See section 1.2.
<i>Note: stability and reactivity, see section 10</i>		

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SECTION 8		Exposure controls/personal protection							
8.1	Control parameters								
	Occupational exposure limit values		Component	CAS					
			Urea	57-13-6	Not established.				
	Derived from the CSR		Worker				consumer		
				systemic	industrial	professional			
			oral	Short term long term	Not applicable	Not applicable	42 mg/Kg bw/day		
			inhalation	Short term long term	292 mg/m ³	292 mg/m ³	125 mg/m ³		
			dermal	Short term long term	580 mg/Kg bw/day	580 mg/Kg bw/day	580 mg/Kg bw/day		
			PNEC		water	air	soil	microbiological	sediment
		fresh surface water: 0.047 mg / L	Not available	Not available	Not required	Not required	Not required		
8.2	Exposure controls								
Engineering measures and hygiene controls Personal protection measures		Prevent high concentrations of dust and provide ventilation wherever necessary. Do not smoke or drink when handling. Wash hands after handling the product and before eating, drinking or smoking. Use the wash basin at the end of the work day.							
		Eyes	Use appropriate safety glasses according to the task.						
		Skin and body	Work clothes.						
		Hands	Use suitable gloves (for example, rubber or leather) when handling the product over long periods of time.						
		Respiratory	If there is a high concentration of dust and/or the ventilation is inadequate, use an anti-dust mask or respirator with a suitable filter.						
		Thermal							
		Environmental exposure controls	See section 6.						
<i>Advice relating to personal protection is valid for high exposure levels.</i>									
<i>Choose personal protection equipment suitable to exposure risks.</i>									
SECTION 9		Physical and chemical properties							
9.1	Information on basic physical and chemical properties								
	Aspect	White solid.							
	Odour	Odourless							
	Odour threshold	Not applicable							
	pH	pH aqueous solution (100 g/l) 9 - 10 at 20 °C							
	Melting point/freezing point	134 °C (Decomposes)							
	Initial boiling point and boiling range	It decomposes at > 134 °C							
	Flash-point	Not applicable.							
	Evaporation rate	Not applicable.							
	Flammability	Not applicable.							
	Upper/lower flammability limits	Not applicable.							
	Vapour pressure at 20 °C	Not applicable.							
	Vapour density	Not applicable.							
	Apparent density at 20°C	700-800 kg/m ³							
	Water solubility	Extremely soluble, e.g. 510 - 531 g/l at 20 °C.							
	Partition coefficient n-octanol/water	LgPow < -1.73							
	Auto-ignition temperature	Not applicable.							
	Decomposition temperature	> 134 °C							
Viscosity	Not applicable.								
Explosive properties	Urea by itself does not present an explosion hazard. It may form explosive mixtures with strong acids (nitric or perchloric acid) or nitrates. Urea when heated under strong confinement can lead to explosive behavior.								
Oxidising properties	Not oxidising								
9.2	Other information								
	Molecular weight	60							
	Fat solubility	33.3 % (w/w) in glycerol.							

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SECTION 10 Stability and reactivity							
10.1	Reactivity	Stable under normal conditions of storage, handling and use (see section 7)					
10.2	Chemical stability	Stable under normal conditions of storage, handling and use (see section 7)					
10.3	Possibility of hazardous reactions	When heated above 134 °C it decomposes releasing NOx and Ammonia. Contamination with incompatible materials.					
10.4	Conditions to avoid	Proximity to sources of heat or fire. Contamination by incompatible materials. Heating above 134 °C (decomposes to gases) Unnecessary exposure to the atmosphere. Heating when confined. Welding or heating work of the equipment or plant that may contain fertiliser remnants, without preliminary cleaning to remove the product remnants.					
10.5	Incompatible materials	Combustible materials, strong oxidants, acids, alkalis, nitrates, nitrites, sodium hypochlorite or calcium hypochlorite. Mixing solid urea with solid ammonium nitrate produces a sludge. Urea reacts with sodium hypochlorite or calcium hypochlorite to form explosive nitrogen trichloride.					
10.6	Hazardous decomposition products	In case of fire: see Section 5 When strongly heated it melts and decomposes releasing toxic gases (e.g. NOx and ammonia). Ver section 2 and 9.					
SECTION 11 Toxicological information							
11.1	Information on toxicological effects						
	Toxicokinetics, metabolism and distribution	Not available					
		Component	CAS No.	Method	Species	Via	Result
	Acute toxicity	Urea	57-13-6	OECD 401	rat	oral	LD50: 14.3-15 g / kg bw.
	Skin corrosion/irritation	No known significant effects or critical hazards					
	Serious eye damage/irritation	No known significant effects or critical hazards					
	Respiratory or skin sensitisation	No known significant effects or critical hazards					
	Germ cell mutagenicity	No known significant effects or critical hazards Ames Test negative.					
	Carcinogenicity	No known significant effects or critical hazards					
	Reproductive toxicity	No known significant effects or critical hazards.					
	STOT-single exposure y STOT-repeated exposure	No known significant effects or critical hazards.					
	Aspiration hazard	No known significant effects or critical hazards.					
	Notes	If the product is handled and used properly it is considered unlikely to produce adverse health effects.					
SECTION 12 Ecological information							
12.1	Toxicity						
	Water toxicity						
	Component	CAS No.		Fish (<i>Leuciscus idus</i>)	Crustaceans (<i>Daphnia magna</i>)	Algae (<i>Microcystis aeruginosa</i>)	
	Urea	57-13-6	Short term	LC50(96h) > 6810 mg/l	LC50(24h) > 10,000 mg/l	LC50(192h) = 47 mg/l	
	Low toxicity to aquatic life						
12.2	Persistence and degradability						
	Component	CAS No.	Aquatic life	Photolysis	Biodegradability		
	Urea	57-13-6	Not available	Not available	10.9 mg/l in 1 h at 20 °C		
12.3	Bioaccumulative potential						
	Component	CAS No.	Octanol-water partition coefficient (Kow)	Bioconcentration factor (BCF)	Bioaccumulative potential		
	Urea	57-13-6	-1,73	-	Low		
12.4	Mobility in soil						
	Component	CAS No.	Result				
	Urea	57-13-6	Soluble in water.				
12.5	Results of PBT and vPvB assessment						
	Not available.						
12.6	Other adverse effects						
	No more information.						
SECTION 13 Disposal considerations							
13.1	Waste treatment methods						
	Depending on the level of contamination, eliminate as fertiliser or at an authorised waste facility. Disposal should be in accordance with local, state or national legislation. Empty bags should be returned for recycling or disposed of as non-hazardous material. (See section 7)						

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SECTION 14 Transport Information								
14.1 - 14.6	Regulatory Information	UN Number	Proper shipping name	Class	Packing group	Label	Environmental hazards	Special precautions for users
	ADR/RID ADNR IMDG IATA	NOT CLASSIFIED						
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable							

SECTION 15 Regulatory Information	
15.1	Safety, health and environmental regulations and legislation specific for the substance or mixture
	Regulation 2003/2003 (fertilisers) Regulation 1907/2006 (REACH) Regulation 1272/2008 (CLP) R.D. 374/2001 (Chemical agents) R.D. 506/2013 (fertilizers) Regulation 1831/2003 (additives for use in animal nutrition)
15.2	Chemical Safety Assessment
	Chemical Safety Assessment carried out for Urea as a substance.

SECTION 16 Other information	
	Hazard statements
	Precautionary statements
	Bibliographical references and data sources Urea chemical safety assessment. Guidance documents EFMA/FERTILIZER EUROPE; Data for TFI HPV; NOTOX
	Abbreviations and acronyms ELV-DE: Environmental limit value (daily exposure) ELV-ST Environmental limit value (short term) NOAEL: No observable adverse effect level LD50: Lethal dose 50% LC50: Lethal concentration 50% DNEL: Derived no effect level PNEC: Predicted no effect concentration LOEC: Lowest observed effect concentration NOEC: No observed effect concentration NOAEC: No observed adverse effect concentration
	Adequate training for workers Obligatory training in occupational risk prevention
	Date of prior SDS Version 6 dated 31.05.16
	Modifications made to present revision 15.1

The information contained in this Safety Data Sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information about the product at the time of publication. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risks as required by other health and safety legislation.