Safety Data Sheet

In accordance with Commission Regulation (EU) No 2015/830

Publication date: 23.12.2022 **Edition:** 3 **Revision date:** 07.07.2022 **Revision:** 6

Urea Solution 20-45%

SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	**Product identifier**	
	Trade name	Urea Solution 40%, Urea Solution 43%, Urea Solution XX%, NitraLiq N20 urea
	Code	FDS-028
	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.
1.2	**Relevant identified uses of the substance or mixture and uses advised against**	
	Application of the substance / the mixture	Fertilisers NOx treatment and reduction Water treatment
	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**	Palos factory: +34 959.49.24.00; (Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2	Hazards identification	
2.1	**Classification of the substance or mixture according Regulation (EC) n° 1272/2008 (CLP)**	This substance is not classified as dangerous according to Regulation (EC) No 1272/2008 [EU-GHS / GB CLP].
2.2	**Label elements**	
	Hazard pictograms	Not applicable.
	Signal word	Not applicable.

	Hazard-determining components of labelling	Not applicable.
	Hazard statements	Not applicable.
	Precautionary statements	P102 Keep out of reach of children. P270 Do not eat, drink or smoke when using this product.
	Additional information	Not applicable.
	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	None known.
	Results of the PBT and vPvB assessment	Not applicable.

SECTION 3 Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Nombre	CE Number	CAS Number	Registration number	%(P/P)	1272/2008 Regulation Classification
Urea	200-315-5	57-13-6	-	25-50%	Not classified

Additional indications For the wording of the listed hazard phrases refer to section 16.

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	Rinse mouth with water. Do not induce vomiting. If patient is conscious, give water to drink. If patient feels unwell, seek medical attention.
	Skin contact	Rinse with plenty of water. Remove contaminated clothing and wash before reuse. If irritation persists, seek medical attention.
	Eye contact	Irrigate with plenty of water for at least 10 minutes. Get medical attention.
4.2	**Most important symptoms and effects, both acute and delayed**	
	Eye contact	Redness, itching, burning.
	Inhalation	Difficulty in breathing.
	Skin contact	No significant effects or critical hazards are known.
	Ingestion	Nausea, vomiting, coughing,
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 no specific treatment. It depends on specialized medical observation.
SECTION 5	**Firefighting measures**	
5.1	**Extinguishing media**	
	The product is not flammable.	
	Suitable extinguishing agents	Dry powder, carbon dioxide (CO2), foam.
	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.	
	Hazardous thermal decomposition products	Carbon oxides Nitrogen oxides (NOx) Ammonia
5.3	**Advice for firefighters**	

	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.
SECTION 6	**Accidental release measures**
6.1	**Personal precautions, protective equipment and emergency procedures**
	Wear protective clothing.
	For non-emergency personnel
	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. 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).
	For emergency responders
	If specialized clothing is required to deal with the spill, make note of any information on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2	**Environmental precautions**
	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).
6.3	**Methods and material for containment and cleaning up**
	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.
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**	
	Avoid contact and packaging with incompatible substances or mixtures. See section 10; Avoid proximity to potential sources of ignition (including electrical equipment); Store in a place that avoids adverse weather conditions (high temperatures); Avoid direct sunlight; Ensure good ventilation of the storage area. Ensure that the quantities that can be stored are not exceeded. See section 15.	
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	Not required.

DNEL

Substance				57-13-6 Urea
	Inhalation (mg/m3)	**Long-term**	**Systemic**	292 mg/m3
			Local	292 mg/m3
		Short-term	**Systemic**	No hazard has been identified
			Local	No hazard has been identified

Urea Solution 20-45%					
	Industrial/Professional worker	Dermal (mg/kg pc/día)	Long-term	Systemic	580 mg/kg bw/d
				Local	580 mg/kg bw/d
			Short-term	Systemic	No hazard has been identified
				Local	No hazard has been identified
		Ocular (mg/kg pc/día)	Long-term	Systemic	Not available
				Local	Not available
			Short-term	Systemic	No hazard has been identified
				Local	No hazard has been identified
	Consummer	Inhalation (mg/m3)	Long-term	Systemic	125 mg/m3
				Local	125 mg/m3
			Short-term	Systemic	Hazards are unknown but no further information is needed as no exposure to the substance is expected to occur
				Local	Hazards are unknown but no further information is needed as no exposure to the substance is expected to occur
		Dermal (mg/kg pc/day)	Long-term	Systemic	580 mg/kg bw/d
				Local	580 mg/kg bw/d
			Short-term	Systemic	No hazard has been identified
				Local	No hazard has been identified
		Oral (mg/kg pc/day)	Long-term	Systemic	42 mg/kg bw/d
				Local	42 mg/kg bw/d
			Short-term	Systemic	No hazard has been identified
				Local	No hazard has been identified
		Ocular (mg/kg pc/day)	Long-term	Systemic	Not available
				Local	Not available
			Short-term	Systemic	No hazard has been identified
				Local	No hazard has been identified

PNEC	
Substance	57-13-6 Urea
Fresh water (mg/L)	0,47
Salt water (mg/L)	0,047
STP (mg/L)	No hazard has been identified
Fresh water sediment (mg/L)	Sediments are not expected to be exposed to the substance

	Salt water sediment (mg/L)		Sediments are not expected to be exposed to the substance
	Air (mg/L)		No hazard has been identified
	Soil (mg/L)		Soil is not expected to be exposed to the substance
	Predators (secondary poisonment) (mg/L)		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		- Ensure adequate ventilation. - Apply technical measures to comply with professional exposure limits. - Consult the protective measures listed in sections 7 and 8.
	Personal protective measures, such as personal protective equipment	**General protection and hygiene measures**	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. Use the appropiate 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.
		Respiratory protection	If dust concentration is high and/or ventilation is inadequate, use a dust mask or a mask with a suitable filter (e.g. EN 143, 149, filter P1).
		Hand protection	Wear suitable gloves (e.g. rubber or PVC) when handling the product for long periods of time.
		Glove material	Nitrile rubber, NBR
		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**		

Urea Solution 20-45%		
	Appearance	Liquid
	Colour	White
	Odour	Odourless
	Odour threshold	Not available.
	pH	9.2-9.5
	Melting point/freezing point	Not available.
	Initial boiling point and boiling range	Undetermined
	Flash point	Not applicable due to physico-chemical characteristics.
	Evaporation rate	Not available
	Flammability	Non-flammable
	Upper/lower flammability or explosive limits	
	Lower	Not available.
	Upper	Not available.
	Vapour pressure	Not determined.
	Vapour density	Not available.
	Relative density	Not available
	Solubility	
	In water	Fully miscible.
	Partition coefficient: n-octanol/water	Not available.
	Auto-ignition temperature	Not available.
	Decomposition temperature	Not determined.
	Viscosity	
	Kinematic	Not available.
	Dynamic	Not available.
	Explosive properties	The product is not explosive
	Oxidising properties	Not available
9.2	**Other information**	No additional information No further relevant information available.

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**	Exothermic reaction with: metal chlorides, chlorites, chromates/perchromates, fuorine, nitrates, strong oxidising agents, hydrogen peroxide, Generates dangerous gases or fumes in contact with: bases, chlorinated solvents Risk of explosion/exothermic reaction with: ammonium nitrate, calcium hypochlorite, chlorine, chromium chloride, nitrous compounds, sodium hypochlorite, nitrous compounds, phosphorus pentachloride.
10.4	**Conditions to avoid**	Avoid storage together with strong bases and/or strongly oxidizing or reducing substances.
10.5	**Incompatible materials**	Incompatible with oxidants and strong bases.
10.6	**Hazardous decomposition products**	Hazardous decomposition products formed under fire conditions. - Oxides of carbon, Oxides of nitrogen (NOx)

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	OECD 425 OECD 403 OECD 402	Rat Mouse Rat	Oral Inhalation Cutaneous	DL50 > 2000 mg/kg bw. CL50 > 5 mg/L air DL50 > 5000 mg/kg bw

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	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
Urea	57-13-6	Not specified	Rabbit	Ocular	Non irritant

Based on available data, the classification criteria are not met.

Respiratory or skin sensitation

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	OECD 429	Mouse	Cutaneous	Non sensitising.

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Component	CAS number	Method	Species	Result
Urea	57-13-6	OECD 471 Not specified	Bacteria Cromosomic aberration	Non mutagenic

Based on available data, the classification criteria are not met.

Carcinogenicity

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	-	-	-	There are no available studies. Study scientifically not necessary.

Based on available data, the classification criteria are not met.

Reproductive toxicity

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	OECD 422	Rat	Oral	Data conclusive but not sufficient for classification. -Effects on fertility : NOAEL: 750 mg/kg bw/d. -Toxicity for the development: NOAEL: 750 mg/kg bw/d.

Based on available data, the classification criteria are not met.

STOT- single exposure

Component	CAS number	Method	Species	Route	Result
Urea	57-13-6	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
Urea	57-13-6	OECD 422	Rat	Oral	NOAEL: 250 mg/kg bw/d. The substance does not have to be classified as toxic by repeated exposure.

Based on available data, the classification criteria are not met.

Aspiration hazard

Component	CAS number	Result
Urea	57-13-6	No significant effects or critical hazards are known.

Based on available data, the classification criteria are not met.

SECTION 12 Ecological information

12.1 Toxicity

Aquatic toxicity

Component	Nº CAS		Fish	Crustacea	Algae
		Short term	CL50 (96h): 6810 - 28000 mg/L	No scientifically validated data are available.	CE50 (24h) > 10000 mg/L

	Urea	57-13-6	Long term	Not available	Not available	NOEC/CE10 (192h): 47 mg/L

Terrestrial toxicity

Component	Nº CAS	Macro-organism	Micro-organism	Terrestrial plants	Other organisms
Urea	57-13-6	Not available	Not available	Low toxicity of urea on plants	-

Microbiological activity in wastewater treatment plants

Component	Nº CAS	Toxicity to aquatic micro-organisms
Urea	57-13-6	The 72-hour toxicity limit of urea for Entosiphon sulcatumte is 29 mg/l. The 16-hour toxicity limit of urea for Pseudomonas putidawas is > 10000 mg/l.

12.2 Persistence and degradability

Component	Nº CAS	Degradation	
Urea	57-13-6	**Hydrolysis**	Hydrolisis is not seen. It is not necessary.
		Photolysis	Not necessary
		Biodegradation	Not necessary

12.3 Bioaccumulative potential

Component	Nº CAS	Octanol-water partition coefficient (Kow)	Bioacumulation factor (BFC)	Observations
Urea	57-13-6	Not applicable.	-	-

12.4 Mobility in soil

Component	Nº CAS	Result
Urea	57-13-6	The adsorption of urea in soil increases as the concentration of added urea increases and the adsorption coefficients range from 0,037-0,064.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

Significative effects o critics risks are not known.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

	Methods of disposal	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, Law 7/2022 of 8 April, on waste and contaminated soil for a circular economy).. 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. Waste management provisions : In accordance with Annex II of Regulation (EC) No 1907/2006 (UK 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.
	Hazardous waste code	Basing on its current knowledge, the supplier does not consider this product as a hazardous waste.

SECTION 14 Transport information

	Regulatory information	ADR/RID	ADNR	IMDG	IATA
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.			
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/legislation specific for the substance or mixture**	
	GB Regulation (EC) No 1907/2006 (REACH)	This product complies with the UK REACH Regulation.

	Named dangerous substances - ANNEX VI (CLP)	None substance listed.
	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.
	Regulation (EC) No 1907/2006 - ANNEX XVII	Not applicable.
15.2	**Chemical safety assessment**	
	A chemical safety assessment has not been performed as it is a mixture (exempt from registration).	
SECTION 16	**Other information**	
	Relevant phrases	Not applicable.
	Abbreviations and acronyms	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road). STP: Sewage treatment plant. OECD: Organisation for Economic Co-operation and Development. NOAEL: No observed adverse effect level.. IMDG: International Maritime Code for Dangerous Goods. IATA: International Air Transport Association. GHS: Globally Harmonised System of Classification and Labelling of Chemicals. CAS: Chemical Abstracts Service (division of the American Chemical Society). DNEL: Derived No-Effect Level (UK REACH). PNEC: Predicted No-Effect Concentration (UK REACH).
	Data compared to the previous version altered	Addition of P phrases.
	References	This safety data sheet has been prepared in accordance with: - ANNEX II: Guidance for the preparation of Safety Data Sheets of Regulation (EC) No 1907/2006 (Regulation (EU) 2015/830) 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)	Classification and Labeling in accordance with the principle of extrapolation of Regulation No. 1272/2008 (CLP).

	Advice on any training appropriate for workers to ensure protection of human health and the environment	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.

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.