

Material Safety Data Sheet

Conforms to 1907/2006/EC

Version 7

Issue date 10-8-2009

Urean						
1 Identification of the substance/preparation and of the company/undertaking						
Commercial product name	Urean					
Common chemical name	Urea-ammonium nitrate fertilizer solution 30					
Synonyms	UAN 30					
Chemical formula	30%N / NH ₄ NO ₃ and NH ₂ CONH ₂					
Use of the substance/preparation	EC FERTILISER					
EU category number						
Company name	DSM Agro B.V.					
Company address	P.O. Box 601 6160 AP Geleen The Netherlands					
Company telephone	(31) 46 476 00 55					
Company e-mail	dsm.agro@dsm.com					
Emergency telephone	(31) 46 476 55 55				24/24 hours	7/7 days
2 Hazards identification						
Physical/chemical hazards						
Environmental hazards	Slightly harmful to the aquatic environment.					
Effect(s) of (over)exposure						
Symptom(s) of (over)exposure						
Inhalation	Not applicable.					
Ingestion	After intake of large quantities: Can cause gastrointestinal disturbances.					
Skin contact	Slightly irritating to the skin. (redness).					
Eye contact	May cause eye irritation. (redness).					
3 Composition/information on ingredients						
Chemical name	CAS no.	EC no.	% (w/w)	Symbol	R phrases	
Ammonium nitrate	6484-52-2	229-347-8	40-41	-	-	
Urea	57-13-6	200-315-5	32	-	-	
Water	7732-18-5	231-791-2	24-25	-	-	
Ammonium sulfate	7783-20-2	231-984-1	2-4	-	-	
<i>EC no. means EINECS or ELINCS number.</i>						
4 First aid measures						
General						
Inhalation	Not applicable.					
Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Obtain medical attention if symptoms occur.					
Skin contact	Rinse with plenty of running water. Remove contaminated clothing and shoes. Obtain medical attention if symptoms occur.					
Eye contact	Rinse with plenty of running water. Obtain medical attention if symptoms occur.					
Note to physician	methaemoglobinaemia					

5 Fire-fighting measures	
Extinguishing media Small fire Large fire Extinguishing media not to be used Unusual fire and explosion hazards Hazardous thermal decomposition and combustion products Special fire fighting procedures	Non-combustible. Use extinguishing media suitable for surrounding materials. Non-combustible. Use extinguishing media suitable for surrounding materials. Noticed solid material could be crystallized urean with a different composition or ureanitate. Both substances might detonate. In case of fire, may produce hazardous decomposition products such as nitrogen oxides (NO, NO2 etc.), ammonia (NH3), amines. No special measures required. Wear suitable protective clothing. Self-contained breathing apparatus.
6 Accidental release measures	
Personal precautions Environmental precautions Methods for cleaning up Small spill and leak Large spill and leak Remarks	Use suitable protective equipment (section 8). Avoid contact of spilt material with soil and prevent runoff entering surface waterways. Suck up material and place in a designated, labelled waste container. Clean up affected area with a large amount of water. Suck up material and place in a designated, labelled waste container. Recycle, if possible. Prevent formation of dust clouds. Clean up affected area with a large amount of water. Noticed solid material could be crystallized urean with a different composition or ureanitate. Both substances might detonate. <i>Note: see section 8 for personal protective equipment and section 13 for waste disposal.</i>
7 Handling and storage	
Handling Storage Specific use(s) Packaging materials	Before loading (transport) tanks inspect the inside of the tank for free nitric acid. Use water flushed seals and pumps. UAN-pumps operated with blocked discharge have been known to explode. Before loading (transport) tanks inspect the inside of the tank for free nitric acid. Use water flushed seals and pumps. UAN-pumps operated with blocked discharge have been known to explode. EC FERTILISER Stainless steel (304), Synthetic material Non suitable: Zinc., Copper <i>Note: See section 10 for stability and reactivity</i>
8 Exposure controls / Personal protection	
Exposure limit values Engineering measures Hygienic measures Personal protection Respiratory system Skin and body Hands Eyes Environmental exposure controls	None required. When using do not eat, drink or smoke. Wash hands after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Production scale Working clothes. Wear suitable gloves. > 8 hours (breakthrough time): Butyl rubber Neoprene Safety glasses with side shields or full face shield. <i>Advice on personal protection is applicable for high exposure levels.</i> <i>Select proper personal protection based on a risk</i>
9 Physical and chemical properties	
Appearance Color Odor Odor threshold Molecular weight	Liquid Clear Odourless

pH	6,4 - 7,2
Boiling point	Decomposes >290 °C
Crystallisation point	-10 °C
Flash point	Not applicable.
Flammability	Not applicable.
Autoignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Lower explosion limit	Not applicable.
Upper explosion limit	Not applicable.
Minimum ignition energy	Not applicable.
Critical temperature	Not applicable.
Relative density	
Density	
Loose bulk density	approx. 1320 kg/m ³ (20°C)
Vapour pressure at 20°C	
Vapour density	
Partition coefficient n-octanol/water	
Viscosity	
Mean particle size	
Solubility in water	100 % (20 °C)
Miscibility	
Fat solubility	
Conductivity	
Gas group	
Remarks	

10 Stability and reactivity	
Stability	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	Formation of urea-nitrate may occur in contact with free nitric-acid. Urea-nitrate has excellent explosive properties and is also friction and mechanical shock sensitive.
Materials to avoid	Reducing agents, strong acids and bases, metal powders, combustible materials, chromates, zinc, copper and copper alloys, chlorates.
Hazardous decomposition products	Ammonia, nitrogen oxides (NO, NO ₂)

11 Toxicological information				
Acute toxicity				
Ingredient name	Test	Species	Route	Result
Urean	LD50	Rat	Dermal	>5000 mg/kg
	LD50	Rat	Oral	>5000 mg/kg
	LC50	Rat	Inhalation	>100 mg/L (4 hours)
Irritation				
Sensitization				
No skin sensitization.				
Chronic toxicity				
No known significant effects or critical hazards.				
Carcinogenicity				
No known significant effects or critical hazards.				
Reproductive toxicity				
No known significant effects or critical hazards.				
Mutagenicity				
No known significant effects or critical hazards.				
Remarks				
Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Methaemoglobinaemia				

12 Ecological information			
Ingredient name	Aquatic half-life	Photolysis	Biodegradability
Urean	-	-	readily

Ingredient name	Test	Period	Result			
Urean	Daphnia (EC50) Fish (LC50)	48 hours 96 hours	>100 mg/L >100 mg/L			
Ingredient name	LogPow	Bio-concentration factor	Bioaccumulative potential			
Urean	< 0	-	low			
Mobility	For data on physical state and solubility see section 9.					
Persistence and degradability	Readily biodegradable This product shows a low bioaccumulation potential.					
Bioaccumulative potential	Readily biodegradable This product shows a low bioaccumulation potential.					
Ecotoxicity	The product does not contain organically bound halogens which could lead to an AOX value in waste water.					
13 Disposal considerations						
Responsibility of the receiver to have knowledge of national and local regulations.						
Methods of disposal	Waste must be disposed of in accordance with national and local environmental regulations. Controlled biodegradation in waste water treatment is possible.					
14 Transport information						
Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
ADR/RID Class	Not regulated.	Urea-ammonium nitrate fertilizer solution 30	-	-	-	-
ADNR Class	Not regulated.	Urea-ammonium nitrate fertilizer solution 30				
IMDG Class	Not regulated.	Urea-ammonium nitrate fertilizer solution 30				
IATA Class	Not regulated.	Urea-ammonium nitrate fertilizer solution 30	-	-	-	-
15 Regulatory information						
Responsibility of the receiver to have knowledge of national and local regulations.						
EU regulations	EC FERTILISER					
Hazard symbol	According to EU Directives 67/548/EEC and 1999/45/EC this product does not require labelling.					
R- and S phrases	According to EU Directives 67/548/EEC and 1999/45/EC this product does not require labelling.					
National Fire protection Association (U.S.A)						
16 Other information						
Risk phrases	-					
Safety phrases	-					
Symbols	-					
Storage classification	-					
Date previous SDS	21-2-2008					
Modifications in this version	Adress change					
References						

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