



Agrico Canada Limited
2896 Slough Street, Unit #6
Mississauga, ON L4T 1G3

Urea

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS NUMBER ► ACL-002 (REV. JAN 2009)

AGE 1 OF 4

SECTION I		NAME	
PRODUCT ►	Urea		
CHEMICAL/ SYNONYMS ►	Carbamide Urea		
CHEMICAL FAMILY ►	Amide		
FORMULA ►	CO(NH ₂) ₂	C.A.S. NUMBER ►	57-13-6

**AGRICO (MISSISSAUGA)
EMERGENCY ASSISTANCE
(905) 672-5700**

**CANUTEC
24 HOUR EMERGENCY
(613) 996-6666**

SECTION II		INGREDIENTS	
COMPOSITION		%	
Urea		97 – 99%	
Biuret		0.5 – 2.0%	
Water		0.1 – 0.3%	

SECTION III		PHYSICAL DATA	
BOILING POINT (0°C) ►	Decomposes at 135°	MELTING POINT (0°C) ►	132.7°C
SPECIFIC GRAVITY (H ₂ O = 1) ►	1.320	% VOLATILE BY VOLUME ►	N/A
SOLUBILITY IN WATER ►	Complete	EVAPORATION RATE (BUTYL ACETATE = 1) ►	N/A
PHYSICAL STATE ►	Solid	DENSITY ►	770 kg/m ³ 48 lbs. per cu. ft.
		VAPOR PRESSURE (mmHg) ►	N/A
		VAPOR DENSITY (AIR = 1) ►	N/A
		MOLECULAR WEIGHT ►	60.06
		pH ►	7.2 (10% sol.) -9.0

APPEARANCE AND ODOR

White, granular solid.

SECTION IV		REACTIVITY	
STABILITY ►	<input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	HAZARDOUS POLYMERIZATION ►	<input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

Hypochlorite bleach reacts with urea to form nitrogen trichloride which explodes spontaneously in air.

HAZARDOUS DECOMPOSITION PRODUCTS

Ammonia, cyanuric acid, biuret, nitrogen oxides.

SECTION V FIRE AND EXPLOSION HAZARDS			
FLASH POINT AND METHOD USED Nonflammable		FLAMMABLE LIMITS — % VOLUME IN AIR	LOWER N/A
EXTINGUISHING MEDIA Use water to control surrounding fire, if water is compatible with burning product.			
SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS Wear self-contained breathing apparatus (positive pressure, if available) and full protective clothing.			
AUTOIGNITION TEMPERATURE: _____ No data _____ °C _____ No data _____ °F			
UNUSUAL FIRE AND EXPLOSION HAZARDS At elevated temperature, urea may decompose to form cyanuric acid, ammonia, biuret and nitrogen oxides.			

SECTION VI HEALTH INFORMATION	
PERMISSIBLE EXPOSURE LIMIT (PEL) _____ None _____	ACGIH THRESHOLD LIMIT VALUE (TLV) _____ None _____
LISTED IN : IARC MONOGRAPHS _____ No _____	NTP LIST _____ No _____ Dust: PEL 15 mg/m ³ – Total; 5 mg/m ³ – resp. TLV 10 mg/m ³ – Total; 5 mg/m ³ – resp.
HEALTH HAZARD CLASSIFICATION None	PRIMARY ROUTE(S) OF ENTRY Inhalation and ingestion
SYMPTOMS OF OVEREXPOSURE Acute: At high dust concentrations, irritation of eyes, skin, and mucous membranes by chemical or mechanical action may occur. Chronic: None	
AGGRAVATED MEDICAL CONDITION None.	
TOXIC DATA LD ₅₀ (Oral, rat) = 14300 mg/kg. LD _{L0} (Oral, dom) = 511 mg/kg.	

SECTION VII STORAGE AND SPECIAL PRECAUTIONS
HANDLING AND STORAGE PRECAUTIONS No unusual precautions necessary.
OTHER PRECAUTIONS Spilled urea, wet or dry, can cause slippery conditions. May be toxic to cattle (ruminants) when injected.

SECTION VIII EMERGENCY AND FIRST AID PROCEDURES	
EYE CONTACT	If eye irritation occurs, flush with copious amounts of water. Get medical attention if irritation persists.
SKIN CONTACT	If irritation occurs, wash skin with water and mild detergent. Get medical attention if irritation persists.
INHALATION	If breathing difficulty occurs because of dust inhalation, remove to fresh air. If discomfort continues, get medical attention.
INGESTION	If the person is conscious, drink large quantities of water immediately to dilute the acid. Do not induce vomiting. Get medical attention.
NOTE TO THE PHYSICIAN	Symptomatic treatment only.

SECTION IX PERSONAL PROTECTION INFORMATION	
RESPIRATORY PROTECTION	A NIOSH approved dust respirator (either single use or multiple use) should be worn when applicable (total and/or respirable) dust standards are exceeded.
ENGINEERING CONTROLS	Adequate ventilation should be available to maintain dust levels below applicable standards on respirable and total nuisance dust.
SKIN PROTECTION	No protection normally required. If irritation occurs, long sleeves and impervious gloves should be worn.
EYE PROTECTION	When appropriate, suitable eye protection should be used.
OTHER PROTECTIVE EQUIPMENT	Washing facilities should be available.

SECTION X TRANSPORTATION REQUIREMENTS	
DEPARTMENT OF TRANSPORTATION	
Not regulated (Under the TDG Act).	
PROPER SHIPPING NAME	IDENTIFICATION NUMBER (PIN)
Urea	N/A
	PACKING GROUP
	N/A
OTHER REQUIREMENTS	
None	

SECTION XI EMERGENCY ACTION – (SPILL OR LEAK)	
EMERGENCY ACTION	
Keep unnecessary people away, and isolate hazard area. Sweep or shovel into containers for reclaim or disposal.	
SMALL SPILLS	
Flush with water; urea has low aquatic toxicity.	
LARGE SPILLS	
Contain spill for later disposal. Notify government authorities if spill is significant.	
FOOTNOTES	
Sources Used: Supplier's Material Safety Data Sheets (Terra, Saskferco, Simplot, Agrium, PCS)	
Note: N/A means Not Applicable.	

DISCLAIMER
The information and recommendations herein, are taken from data contained in independent, industry recognized references, including NIOSH, OSHA, ANSI, and NFPA. Thus, Agrico Canada Ltd. itself makes no guarantee, warranty or other representation concerning this substance, since the conditions of its use are beyond our control. Agrico Canada Ltd. disclaims any liability for loss or damage incurred in connection with the use of this substance.