
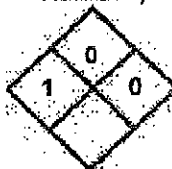


~~John Melara~~  
427304

## Material Safety Data Sheet

Revision Issued: 12/31/06	Supersedes: 10/1/06	First Issued: 1/1/2000
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<b>Product Name: Potash</b>  1101 Skokie Blvd., Northbrook, IL 60062 Phone (800) 241-6908 / (847) 849-4200   Suite 500, 122 - 1 <sup>st</sup> Avenue South Saskatoon, Saskatchewan Canada S7K7G3 Phone (800) 667-0403 from Canada (800) 667-3930 from USA  <b>Emergencies (800) 424-9300 (CHEMTREC)</b> Web Site <a href="http://www.potashcorp.com">www.potashcorp.com</a>  Health Emergencies, Contact Your Local Poison Center	PotashCorp MSDS No.: 1 ERG No.: N/A  <div style="text-align: center;"> <p>Flammability</p>  <p>Health: 1      Reactivity: 0</p> <p>Specific Hazard</p> <p>NFPA Code</p> </div>
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Common Name: Potash	Formula: KCl	Synonym: Muriate of Potash: Granular, Lawn & Garden, Standard & Suspension Grades	Uses: Fertilizer
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Chemical Name	CAS No.	Exposure Limits								
		OSHA PEL		TLV - TWA		STEL		CEIL		% by Weight
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
Potassium Chloride	7447-40-7			10*						95-99.8
Sodium Chloride	7647-14-5			10*						0.1-4

May contain up to 0.25% base lubrication oil and/or 0.03% neutralized primary aliphatic amines

\* Based on ACGIH nuisance dust limits

<b>Potential Acute Health Effects:</b>	May cause irritation
<b>Eyes and Skin:</b>	Mild irritation, especially in open wounds.
<b>Inhalation:</b>	Exposure to high dust concentrations may cause irritation of mucous membranes.
<b>Ingestion:</b>	A large body load may cause vomiting, diarrhea, cramps, tingling in hands and feet, weak pulse, and circulatory disturbances.
<b>Potential Chronic Health Effects:</b>	Lung symptoms
<b>CARCINOGENICITY LISTS</b>	IARC Monograph: No      NTP: No      OSHA: No

<b>Eyes:</b>	Flush eyes with water, including under upper and lower lids, for at least 15 minutes. Get medical attention if pain and irritation persists.
<b>Skin:</b>	Wash thoroughly with water. Obtain medical advice if rash develops.
<b>Ingestion:</b>	Administer water if patient is conscious. Ingesting potash will usually cause purging of the stomach by vomiting. Obtain medical attention.
<b>Inhalation:</b>	Remove to fresh air. Obtain medical attention if discomfort persists.

<b>Flash Point:</b>	Not Applicable	<b>Autoignition Temperature:</b>	Not Applicable
<b>Lower Explosive Limit:</b>	Not Applicable	<b>Upper Explosive Limit:</b>	Not Applicable
<b>Unusual Fire and Explosion Hazards:</b>	When subjected to extremely high temperatures, it may release small quantities of chlorine gas.		
<b>Extinguishing Media:</b>	As required for surrounding fire. Potash is non-flammable and does not support combustion.		
<b>Special Firefighting Procedures and Equipment:</b>	Wear full protective clothing and self-contained breathing apparatus.		

<b>Small Spill:</b>	Sweep up and use as fertilizer if non-contaminated.
<b>Large Spill:</b>	Collect with appropriate equipment. If on a hard surface, sweep up residue with brooms. If on soil, remove and collect the top 5cm of soil.
<b>Release Notes:</b>	Non-toxic to aquatic organisms as defined by USEPA. If in the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number 800-424-8802. In case of accident or road spill notify: CHEMTREC IN USA at 800-424-9300; CANUTEC in Canada at 613-996-6666 CHEMTREC in other countries at (International code)+1-703-527-3887.
<b>Comments:</b>	See Section XIII for disposal information and Section XV for regulatory requirements. Large and small spills may have a broad definition depending on the user's handling system. Therefore, the spill category must be defined at the point of release by technically qualified personnel.

<b>Ventilation:</b>	Local exhaust to reduce dust concentrations below recommended levels.
<b>Handling:</b>	Avoid generating dust by excessive or unnecessary movement.
<b>Storage:</b>	Store in a dry location. Avoid contact with aluminum or carbon steel to minimize corrosion.

<b>Engineering Controls:</b>	May be necessary to minimize dust levels.
<b>Personal Protection:</b>	
<b>Eye Protection:</b>	Use tight-fitting safety goggles in areas of high dust concentration.
<b>Protective Clothing:</b>	Gloves, long sleeve shirts and long pants. Launder work clothing regularly.
<b>Respiratory Protection:</b>	Wear NIOSH approved respiratory protective equipment when workplace conditions warrant use of respirator.
<b>Other Protective Clothing or Equipment:</b>	Optional

<b>Appearance/Color/Odor:</b>	White to red solid, fine to 4mm size, granules which may have a slight oily odor.	<b>Boiling Point:</b>	1500°C (sublimes)
<b>Melting Point/Range:</b>	771-773°C	<b>Boiling Point Range:</b>	1420-1500°C
<b>Solubility in Water:</b>	347 g/L @ 20°C	<b>Vapor Pressure (mmHg):</b>	Not Applicable
<b>Specific Gravity:</b>	2.0 (H <sub>2</sub> O) = 1)	<b>Molecular Weight:</b>	74
<b>Vapor Density:</b>	Not Applicable	<b>% Volatiles:</b>	<0.5
<b>Bulk Density:</b>	1-1.3 g/ml	<b>Evaporation Rate:</b>	Not Applicable
<b>pH:</b>	about 7	<b>Freezing Point:</b>	Not Applicable
<b>Viscosity:</b>	Not Applicable	<b>Density:</b>	Not Applicable

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Conditions to Avoid:</b>	None
<b>Materials to Avoid (Incompatibles):</b>	Contact with strong acid may produce hydrogen chloride gas; contact with hot nitric acid may produce toxic nitrosyl chloride.
<b>Hazardous Decomposition Products:</b>	None

<b>Significant Routes of Exposure:</b>	Skin, eyes, ingestion, inhalation	
<b>Toxicity to Animals:</b>	<b>Acute Oral Toxicity:</b>	(mouse, rat) LD <sub>50</sub> =1500-2600 mg/kg bw.
	<b>Acute Inhalation Toxicity:</b>	No data available
	<b>Acute Toxicity: Other Routes:</b>	No data available
	<b>Acute Dermal Toxicity:</b>	No data available
	<b>Repeated Dose Toxicity:</b>	No data available
	<b>Eye &amp; Skin Irritation/Corrosion:</b>	No data available
<b>Special Remarks on Toxicity to Animals:</b>	Based on toxicity data for another salt compound (i.e. potassium nitrate). Not expected to be toxic by dermal exposure as defined by OSHA.	
	<b>Developmental Toxicity/Teratogenicity:</b>	No data available
	<b>Bacterial Genetic Toxicity In-Vitro: Gene Mutation:</b>	( <i>Saccharomyces cerevisiae</i> ) - Mitotic recombination: NOAEL = 300 mM.
	<b>Non-Bacterial Genetic Toxicity In-Vitro: Chromosomal Aberration:</b>	No data available.
	<b>Toxicity to Reproduction:</b>	No data available.
	<b>Carcinogenicity:</b>	No data available.
<b>Other Effects on Humans:</b>	Large doses by mouth can cause gastrointestinal irritation, purging, weakness and circulatory disturbances. Potassium chloride used as a dietary supplement in food for human consumption is generally recognized as safe (GRAS).	
<b>Special Remarks on Chronic Effects on Humans</b>	Not reported to be carcinogenic mutagenic, teratogenic or allergenic	
<b>Special Remarks on Other Effects on Humans:</b>	None	

<b>Ecotoxicity:</b>	<b>Acute Toxicity to Fish:</b>	( <i>Lepomis macrochirus</i> ) (blue gill) - 96 hour - LC <sub>50</sub> = 2010 mg/L (ppm KCl)
	<b>Chronic Toxicity to Fish:</b>	No data available
	<b>Acute Toxicity to Aquatic Invertebrates:</b>	( <i>Daphnia magna</i> ) - 48 hours - EC <sub>50</sub> = 337 - 825 mg/L; ( <i>Physa heterostropha</i> ) - 96 hrs - LC <sub>50</sub> = 940 mg/L.
	<b>Chronic Toxicity to Aquatic Invertebrates:</b>	No data available
	<b>Toxicity to Aquatic Plants:</b>	(( <i>Nitzschia linearis</i> ) diatom) - 5 days- 120 hour TL <sub>50</sub> = 1,337 ppm KCl; ( <i>Scenedesmus subspicatus</i> ) 72 hour - EC <sub>50</sub> = 2,500 mg/L. ( <i>Chlorella vulgaris</i> ) - 3 - 4 months - NOEC = 600 mg KCl/L, LOEL = 700 mg KCl/L.
	<b>Toxicity to Bacteria: (activated sludge):</b>	No data available
	<b>Toxicity to Soil Dwelling Organisms:</b>	No data available
	<b>Toxicity to Terrestrial Plants:</b>	No data available
<b>Environmental Fate:</b>	<b>Stability in Water:</b>	Ions can persist, dissociates in water
	<b>Stability in Soil:</b>	Binds to clay particles
	<b>Transport and Distribution:</b>	1.51 x 10 <sup>-3</sup> % to air; 45.2% to water; 54.7% to soil; 0.0755% to sediment
<b>Toxicity:</b>	Not toxic to aquatic organisms defined by USEPA	
<b>Degradation Products:</b>	<b>Biodegradation:</b>	No data available
	<b>Photodegradation:</b>	No data available

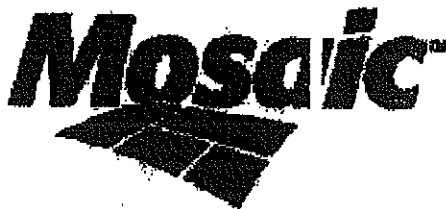
<b>Product Disposal:</b>	Uncontaminated product may be used as fertilizer. Otherwise, dispose according to Federal State or Provincial regulations in a landfill approved to receive potash.
<b>General Comments:</b>	Because of its solubility, potash should not be disposed of in a location where run-off will escape.

	<b>USDOT</b>	<b>TDG - Canada</b>
<b>Proper Shipping Name:</b>	Not Regulated	Not Regulated
<b>Hazard Class:</b>		
<b>Identification Number:</b>		
<b>Packing Group (Technical Name):</b>		
<b>Labelling / Placarding:</b>		
<b>Authorized Packaging:</b>		
<b>Notes:</b>		
<b>European Transportation:</b>		

<b>UNITED STATES: SARA Hazard Category:</b>	This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendment and reauthorization Act of 1986 (SARA title III) and is considered, under applicable definitions, to meet the following categories:									
	<b>Fire:</b>	No	<b>Pressure Generating:</b>	No	<b>Reactivity:</b>	No	<b>Acute:</b>	No	<b>Chronic:</b>	No
	<b>40 CFR Part 355 - Extremely Hazardous Substances:</b>						None			
	<b>40 CFR Part 370 - Hazardous Chemical Reporting:</b>						None			
<b>All intentional ingredients listed on the TSCA inventory.</b>										
<b>SARA Title III Information:</b>	This product contains the following substances subject of the reporting requirements of Title III (EPCRA) of the Superfund amendments and Reauthorization Act of 1988 and 40 CFR Part 372:									
	<b>Chemical</b>	<b>CAS NO.</b>	<b>Percent by Weight</b>	<b>CERCLA RQ (lbs)*</b>	<b>SARA (1986) Reporting</b>					
					<b>311</b>	<b>312</b>	<b>313</b>			
	Potassium Chloride	7447-40-7	95-99.8	NA	No	No	No			
	Sodium Chloride	7647-14-5	0.1-4	NA	No	No	No			
<b>CERCLA/Superfund, 40 CFR Parts 117, 302:</b>	If this product contains components subject to substances designated as CERCLA reportable Quantity (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If there is a release of RQ Substance to the environment, notification to the National response Center, Washington D.C. (1-800-424-8802) is required.									
<b>CANADA:</b>	<b>WHMIS Hazard Symbol and Classification:</b>				Not Controlled					
	<b>Ingredient Disclosure List:</b>				This product does not contain ingredient(s) on this list.					
	<b>Environmental Protection:</b>				All intentional ingredients are listed on the DSL (Domestic Substance List).					
<b>EINECS#:</b>	(Potassium Chloride) 231-211-8 (Sodium Chloride) 231-554-3									
<b>California: Prop 65:</b>	This product contains substances that are known to the State of California to cause cancer and/or reproductive harm									

<b>NFPA Hazard Ratings:</b>	<b>Health: 1</b>	<b>Fire: 0</b>	<b>Reactivity: 0</b>	<b>Special Hazards:</b>	
	0 = Insignificant	1 = Slight	2 = Moderate	3 = High	4 = Extreme
<b>COMMENTS:</b>	Section(s) changed since last revision: New Format, I				
Although the information contained is offered in good faith, SUCH INFORMATION IS EXPRESSLY GIVEN WITHOUT ANY WARRANTY (EXPRESS OR IMPLIED) OR ANY GUARANTEE OF ITS ACCURACY OR SUFFICIENCY and is taken at the user's sole risk. User is solely responsible for determining the suitability of use in each particular situation. PCS Sales specifically DISCLAIMS ANY LIABILITY WHATSOEVER FOR THE USE OF SUCH INFORMATION, including without limitation any recommendation which user may construe and attempt to apply which may infringe or violate valid patents, licenses, and/or copyright.					

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RIVERVIEW, FLORIDA 3568  
EMERGENCY TELEPHONE - CHEMTREC 1-800-424-9300

## MATERIAL SAFETY DATA SHEET

SECTION I PRODUCT INFORMATION	
TRADE NAME:	Diammonium Phosphate
COMMON NAME:	Dibasic Ammonium Phosphate Secondary Ammonium Phosphate Diammonium Hydrogen Phosphate DAP 18 - 46 - 0
HMS RATING:	Health Hazard-1 Fire Hazard-0 Reactivity Hazard-0 Specific Hazard-none
C.A.S. NUMBER:	7763 - 28 - 0
CHEMICAL FAMILY:	Ammonium Phosphates
SECTION II INGREDIENTS	
FORMULA:	(NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub>
COMPOSITION:	Phosphate as P <sub>2</sub> O <sub>5</sub> 46.0% Nitrogen as N 18.0% Water 2.0%

<b>SECTION III HAZARD IDENTIFICATION</b>	
<b>CLASSIFICATION:</b>	Non-Toxic
<b>EMERGENCY CONCERNS:</b>	None Established
<b>PRECAUTIONARY MEASURE:</b>	Avoid breathing dust Avoid ingestion Avoid excessive contact with eyes Use in adequate ventilation
<b>OVEREXPOSURE CONDITIONS:</b>	Acute: Unknown Chronic: Unknown
<b>SECTION IV FIRST AID MEASURES</b>	
<b>IMMEDIATE TREATMENT:</b>	If in eyes: Flush with plenty of water for at least 15 minutes. Get medical attention as soon as possible.  If on skin: Wash contaminated area with soap or mild detergent and water. If chemical or solution soaks through clothing, remove clothing in area and wash contaminated skin as above. If irritation persists after washing, seek medical attention.  If inhaled: Move to fresh air. Treat symptomatically. Get medical attention promptly.  If ingested: Give large quantities of water to patient if conscious. Induce vomiting and seek medical attention.
<b>FIRST AID TREATMENT:</b>	Same as above
<b>A NOTE TO PHYSICIAN:</b>	Not applicable
<b>SECTION V FIRE FIGHTING MEASURES</b>	
<b>FLASH POINT:</b>	Not applicable
<b>FIRE FIGHTING HAZARDS:</b>	NH <sub>3</sub> fumes may be released
<b>APPROPRIATE EXTINGUISHING MEDIA:</b>	Small fires: Water spray, foam, dry chemical or CO <sub>2</sub> Large fires: Water spray, foam

<b>SPECIFIC PROTECTIVE EQUIPMENT:</b>	Wear self-contained breathing apparatus with full protective clothing
<b>SECTION VI ACCIDENTAL RELEASE MEASURES</b>	
<b>CONTROLLING SPILLS:</b>	Small spills: Carefully shovel material into dry container. Remove from site.  Large spills: Use same procedure as above. Contact proper local, state, or federal regulatory agency (ies) to ascertain proper disposal techniques and procedures.
<b>PPE:</b>	Wear respiratory equipment to avoid breathing dust.
<b>SECTION VII HANDLING AND STORAGE</b>	
<b>STORAGE CONDITIONS:</b>	None Listed
<b>HANDLING PROCEDURES:</b>	Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Maintain proper hygiene practices when handling this product.
<b>SECTION VIII EXPOSURE CONTROLS / PPE</b>	
<b>EXPOSURE LIMITS:</b>	OSHA Permissible Exposure Limits (PEL): Unknown ACGIH Threshold Limit Value (TLV): Unknown
<b>PPE:</b>	Respiratory Protection: Single use dust respirator Skin Protection: Protection on wounds Eye Protection: Eye protection should be worn at all times.
<b>ENGINEERING CONTROLS:</b>	None established

<b>SECTION IX PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>APPEARANCE / ODOR / COLOR:</b>	Brown, granulated solid material with slight odor.
<b>BOILING POINT (°F):</b>	Not applicable
<b>MELTING POINT (°F):</b>	Not applicable


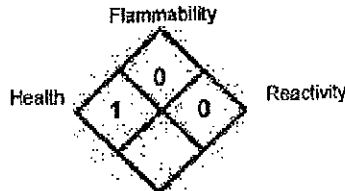
<b>VAPOR PRESSURE</b> (mmHg):	Not applicable	
<b>SPECIFIC GRAVITY</b> (H <sub>2</sub> O = 1):	1.82	
<b>% VOLATILE BY</b> <b>VOLUME:</b>	Not applicable	
<b>VAPOR DENSITY:</b>	Not applicable	
<b>SOLUBILITY IN</b> <b>WATER:</b>	20°C 87.0%	
<b>EVAPORATION RATE</b> (BUTYL ACETATE = 1):	Not applicable	
<b>MOLECULAR</b> <b>WEIGHT:</b>	132.05	
<b>PHYSICAL STATE:</b>	Solid	
<b>DENSITY - BULK:</b>	(Packed) 83.6 lbs./ft <sup>3</sup>	
<b>pH:</b>	(1% Sol.) 7.3	
<b>SECTION X STABILITY AND REACTIVITY</b>		
<b>STABILITY:</b>	Stable	
<b>HAZARDOUS</b> <b>POLYMERIZATION:</b>	Will not occur	
<b>CONDITIONS AND</b> <b>MATERIALS TO</b> <b>AVOID:</b>	Extreme temperatures	
<b>HAZARDOUS</b> <b>DECOMPOSITION</b> <b>PRODUCTS:</b>	Extreme temperatures such as a fire causes formation of toxic fumes of PO <sub>x</sub> and NH <sub>3</sub>	
<b>SECTION XI TOXICOLOGY INFORMATION</b>		

<b>PRODUCT</b>	Mammalian;
<b>TOXICOLOGICAL DATA:</b>	Oral LD <sub>50</sub> OECD Guideline 425 (i rat): >2,000 mg/kg Dermal LD <sub>50</sub> OECD Guidelines 41 2 (rat): >5,000 mg/kg Not found to be toxic by oral exposure as defined by OSHA. Based on toxicity data for other ammonium compounds (i.e., ammonium nitrates), not expected to be toxic by dermal exposure as defined by OSHA.
<b>SECTION XII ECOLOGICAL INFORMATION</b>	
<b>ECOTOXICOLOGY:</b>	Aquatic: Fish 96 hour LC50: >31 - 1,506.3r g/L Algae, OECD Guideline 201 (green algae, Selenastrum) No toxicity at up to 97.1 mg/L; stimulation observed at 6.41 mg/L and higher. Non-toxic to aquatic organisms as defined by USEPA.
<b>SECTION XIII DISPOSAL CONSIDERATIONS</b>	
<b>WASTE DISPOSAL CONSIDERATIONS</b>	Pick up with shovel and broom and broadcast as fertilizer using proper agriculture and soil management.
<b>SECTION XIV TRANSPORT INFORMATION</b>	
<b>SHIPPING NAME:</b>	Not regulated by D.O.T.
<b>HAZARD CLASS:</b>	Not applicable
<b>D.O.T. NUMBER:</b>	Not applicable
<b>SECTION XV REGULATORY INFORMATION</b>	
<b>REPORTABLE QUANTITIES:</b>	Not on the 302 list of SARA reportable quantities
<b>HAZ WASTE NO:</b>	None established
<b>EPA REGISTER NO:</b>	None established
<b>SECTION XVI OTHER INFORMATION</b>	
<b>NONE LISTED</b>	

REFERENCES: Sax and Lewis, *Dangerous Properties of Industrial Materials*, seventh edition, Van Nostrand Reinhold Co., N.Y., 1989.

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

## Material Safety Data Sheet

Revision Issued: 2/28/07	Supersedes: 12/31/06	First Issued: 7/1/1989
<b>Product Name: Urea, Dry</b>		PotashCorp MSDS No.: 13 ERG No.: None
1101 Skokie Blvd., Northbrook, IL 60062 Phone (800) 241-6908 / (847) 849-4200  Suite 500, 122 - 1 <sup>st</sup> Avenue South Saskatoon, Saskatchewan Canada S7K7G3 Phone (800) 667-0403 from Canada (800) 667-3930 from USA  		Flammability  Health      Reactivity Specific Hazard NFPA Code
<b>Emergencies (800) 424-9300 (CHEMTREC)</b> Web Site <a href="http://www.potashcorp.com">www.potashcorp.com</a> Health Emergencies, Contact Your Local Poison Center		
<b>Common Name:</b> Urea, Dry	<b>Formula:</b> CO(NH <sub>2</sub> ) <sub>2</sub>	<b>Synonym:</b> Urea Prills, Urea Granular
<b>Uses:</b> Industrial, Agricultural, Feed		

Chemical Name	CAS No.	Exposure Limits								% by Weight
		OSHA PEL		TLV - TWA		STEL		CEIL		
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
Urea, Carbamide, Carbonyldiamide, Carbamidoic Acid <sup>(1)</sup>	57-13-6	5 <sup>(2)</sup>		10 <sup>(3)</sup>						97.5 - 99.7
Alkalinity as Ammonia										150 PPM (Max)
Urea										97.5 - 99.7
Biuret										0.00 - 1.50
Methylenediurea <sup>(4)</sup>										0.00 - 2.42

<sup>(1)</sup> Nuisance dust 15 Mg/M<sup>3</sup> (Total)<sup>(2)</sup> 5 Mg/M<sup>3</sup> - Respirable (particulate) Fraction Urea.<sup>(3)</sup> 10 Mg/M<sup>3</sup> inhalable particulate<sup>(4)</sup> Reagent and Chemical Grade Urea does not contain formaldehyde

<b>Potential Acute Health Effects:</b>	<b>Skin:</b> Repeated or prolonged contact may cause reddening, itching and inflammation. <b>Ingestion:</b> A single dose of 100 grams has reportedly caused mild symptoms of Central Nervous System depression (e. g. drowsiness and slow reflexes).
<b>Eyes and Skin:</b>	<b>Eyes:</b> Severe irritant. Contact with heated material may cause thermal burns. <b>Skin:</b> Slightly irritating. Repeated or prolonged contact may cause reddening, itching and inflammation. Contact with heated material may cause thermal burns.
<b>Inhalation:</b>	May cause respiratory tract irritation although no incidents of dust inhalation health effects have been reported.
<b>Ingestion:</b>	May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea.
<b>Potential Chronic Health Effects:</b>	None known. Urea is a naturally occurring chemical in the body. It is an end product of protein metabolism and is excreted in the urine.
<b>CARCINOGENICITY LISTS</b>	IARC Monograph: No      NTP: No      OSHA: No

<b>Eyes:</b>	Promptly flush with water, continuing for 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. If irritation persists, consult a physician immediately.
<b>Skin:</b>	Wash area of contact thoroughly with soap and water. For contact with molten product do not remove clothing. Flush skin immediately with cold water. Launder clothing before reuse.
<b>Ingestion:</b>	Do not induce vomiting. Keep affected person warm and treat for shock. Get medical attention. A single dose of 100 grams has reportedly caused mild symptoms of Central Nervous System depression (drowsiness, etc.).
<b>Inhalation:</b>	Remove affected person from source of exposure. If not breathing, ensure open airway and initiate CPR. If breathing is difficult, administer oxygen; if available get medical attention.

<b>Flash Point:</b>	Not Applicable	<b>Autoignition Temperature:</b>	Not Applicable
<b>Lower Explosive Limit:</b>	Not Applicable	<b>Upper Explosive Limit:</b>	Not Applicable
<b>Unusual Fire and Explosion Hazards:</b>	Heating above 270° F decomposes to Biuret, Ammonia, and Nitrogen Oxides. Short-term exposures to smoke and gases may lead to irreversible lung injury without early signs and symptoms.		
<b>Extinguishing Media:</b>	All standard agents are acceptable. Use extinguishing agent suitable for the surrounding fire. Material itself burns with difficulty. Urea becomes slippery when wet. - Guard against slips and falls		
<b>Special Firefighting Procedures and Equipment:</b>	Irritating toxic substances may be emitted upon thermal decomposition. Exposed firefighters should wear NIOSH approved self contained breathing apparatus with full face piece and full protective clothing. May form explosive mixtures if mixed with strong acid (Nitric/Perchloric). Ventilation: Provide local or general ventilation to keep below nuisance dust limit of 15 mg/m <sup>3</sup> .		

<b>Small Spill:</b>	If uncontaminated, recover and reuse as product.
<b>Large Spill:</b>	Prevent large quantities from contacting vegetation or waterways. Keep animals away from large spills.
<b>Release Notes:</b>	If spill could potentially enter any waterway, including intermittent dry creeks, contact the local authorities. If in the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number 800-424-8802. In case of accident or road spill notify: CHEMTREC IN USA at 800-424-9300; CANUTEC in Canada at 613-998-6666 CHEMTREC in other countries at (International code)+1-703-527-3887.
<b>Comments:</b>	See Section XIII for disposal information and Section XV for regulatory requirements. Large and small spills may have a broad definition depending on the user's handling system. Therefore, the spill category must be defined at the point of release by technically qualified personnel.

<b>Ventilation:</b>	Provide local or general ventilation to keep below nuisance dust limit of 15mg/m <sup>3</sup> .
<b>Handling:</b>	Avoid contact with the eyes. Avoid repeated or prolonged contact with the skin or clothing. Avoid dust inhalation. Contact lenses should not be worn.
<b>Storage:</b>	Store in closed containers in cool, dry, isolated, well ventilated area away from heat, sources of ignition, and incompatibles. Avoid contamination with other "look alike" materials that may produce a fire or explosion. <b>Special precautions/ Procedures/ Label instructions:</b> Avoid containers, piping or fittings made of brass, bronze or other copper bearing alloys or galvanized metals.

<b>Engineering Controls:</b>	Provide local or general ventilation to keep below nuisance dust limit of 15mg/m <sup>3</sup> .
<b>Personal Protection:</b>	
<b>Eye Protection:</b>	Use tight-fitting safety goggles in areas of high dust concentration.
<b>Protective Clothing:</b>	Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Have eye wash facilities available where eye contact could occur.
<b>Respiratory Protection:</b>	Normally none needed. Use NIOSH approved equipment when airborne dust exposure limits are exceeded. NIOSH approved breathing equipment must be available for non-routine and emergency use.
<b>Other Protective Clothing or Equipment:</b>	Normally not required

<b>Appearance/Color/Odor:</b>	White solid, spherical or granular shape with slight ammonia odor.	<b>Boiling Point:</b>	135°C (decomposes)
<b>Melting Point/Range:</b>	271°F or 133°C	<b>Boiling Point Range:</b>	Not Applicable
<b>Solubility in Water:</b>	1,193 g/L at 25°C	<b>Vapor Pressure (mmHg):</b>	80 Pa at 20°C (calculated)
<b>Specific Gravity:</b>	Not Applicable	<b>Molecular Weight:</b>	60.07
<b>Vapor Density:</b>	Not Applicable	<b>% Volatiles:</b>	Not Applicable
<b>Bulk Density:</b>	44 - 49 lbs/cu ft	<b>Evaporation Rate:</b>	Not Applicable
<b>pH:</b>	7.2 at 100 g/L	<b>Freezing Point:</b>	Not Applicable
<b>Viscosity:</b>	Not Applicable	<b>Density:</b>	750 kg/m <sup>3</sup>

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Conditions to Avoid:</b>	May slowly hydrolyze to Ammonium Carbamate after a long period of time which decomposes to Ammonia and Carbon Dioxide.
<b>Materials to Avoid (Incompatibles):</b>	Avoid contact with strong oxidizers, acids or bases. Avoid contact with Nitrates. Reacts with Sodium or Calcium Hypochlorite to form explosive Nitrogen Trichloride. Avoid contact with hypochlorites
<b>Hazardous Decomposition Products:</b>	Decomposes to Ammonia, Biuret, Nitrogen Oxides, Carbon Oxides. May react with hypochlorites to form the explosive nitrogen trichloride.

<b>Significant Routes of Exposure:</b>	Eyes, Digestive Tract, Respiratory Tract, Skin	
<b>Toxicity to Animals:</b>	<b>Acute Oral Toxicity:</b>	(rat) LD <sub>50</sub> =14,300-15,000 mg/kg; (mouse) LD <sub>50</sub> = 11,500-13,000 mg/kg; (cattle) LD <sub>50</sub> = 510 mg/kg.
	<b>Acute Inhalation Toxicity:</b>	No data available
	<b>Acute Toxicity: Other Routes:</b>	No data available
	<b>Acute Dermal Toxicity:</b>	No data available
	<b>Repeated Dose Toxicity:</b>	(rat) 24 weeks; dermal - NOAEL = 40% in ointment
	<b>Eye &amp; Skin Irritation/Corrosion:</b>	Skin Irritation/Corrosion: Mouse - Not irritating (10% solution) Eye Irritation/Corrosion: Rabbit - Not irritating (50% solution) Not found to be toxic by oral exposure as defined by OSHA. Based on toxicity data for another compound (i.e., ammonium nitrate), not expected to be toxic by dermal and inhalation exposure as defined by OSHA.
	<b>Bacterial Genetic Toxicity In-Vitro: Gene Mutation:</b>	( <i>Salmonella typhimurium</i> ) - Bacterial reverse mutation assay- Negative; Chinese Hamster - Chromosomal aberration test - Positive (very high dose); Mouse - Positive (very high dose).
	<b>Non-Bacterial Genetic Toxicity In-Vitro: Chromosomal Aberration:</b>	Mouse - Bone marrow cytogenetic test - Positive (extremely high dose)
<b>Toxicity to Reproduction:</b>	No toxic effects on mouse gonads up to 6,750-mg/kg day. No toxic effects on rat gonads up to 2,250-mg/kg day.	
<b>Developmental Toxicity / Teratogenicity:</b>	Not teratogenic.	
<b>Other Effects on Humans:</b>	Despite extensive medical use, no significant side effects on humans have been noted.	
<b>Special Remarks on Chronic Effects on Humans</b>	No chronic effects known.	
<b>Special Remarks on Other Effects on Humans:</b>	May be irritating at > 10% concentration; not a skin sensitizer. Despite extensive medical uses no significant side effects on humans has been noted.	

<b>Ecotoxicity:</b>	<b>EPA Ecological Toxicity rating :</b>		
	<b>Acute Toxicity to Fish:</b>	98	LC <sub>50</sub> = > 9,100 mg/L.
	<b>Chronic Toxicity to Fish:</b>		
	<b>Acute Toxicity to Aquatic Invertebrates:</b>		LC <sub>50</sub> > 10,000 mg/L.
	<b>Toxicity to Aquatic Plants:</b>		92-hr cell multiplication inhibition
	<b>Toxicity to Bacteria (sludge):</b>		grassland for long earthworms in the
	<b>Toxicity to Terrestrial Species:</b>		g. Since Urea is a urways. Non-toxic
<b>Environmental Fate:</b>	<b>Stability in Water:</b>		tip necrosis
	<b>Stability in Soil:</b>		
	<b>Transport and Distribution:</b>		er (calculated (Fugacity Level I))
<b>Toxicity:</b>	Non-toxic to aquatic organisms as defined by USEPA. No known toxicity		
<b>Degradation Products:</b>	<b>Biodegradation:</b>	Ultimately biodegradable (OECDTG 302B) 93-98% (SCAS 24 hr)	
	<b>Photodegradation:</b>	No data available	

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 Urea Fields  
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<b>Product Disposal:</b>	Disposal of Urea may be subject to federal, state or local regulations.
<b>General Comments:</b>	Users of this product should review their operations in terms of applicable federal, state and local laws and regulations, then consult with appropriate regulatory agencies before discharging or disposing of waste material.

	USDOT	TDG - Canada
<b>Proper Shipping Name:</b>	Not Regulated	Not Regulated
<b>Hazard Class:</b>		
<b>Identification Number:</b>		
<b>Packing Group (Technical Name):</b>		
<b>Labeling / Placarding:</b>		
<b>Authorized Packaging:</b>		
<b>Notes:</b>		
<b>European Transportation:</b>	If shipping internationally, notate Urea as Carbamidic Acid.	

<b>UNITED STATES: SARA Hazard Category:</b>	This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendment and reauthorization Act of 1986 (SARA title III) and is considered, under applicable definitions, to meet the following categories:																										
	<b>Fire:</b>	No	<b>Pressure Generating:</b>	No	<b>Reactivity:</b>	No	<b>Acute:</b>	Yes	<b>Chronic:</b>	No																	
	<b>40 CFR Part 355 - Extremely Hazardous Substances:</b>						None																				
	<b>40 CFR Part 370 - Hazardous Chemical Reporting:</b>						Applicable																				
	<b>All intentional ingredients listed on the TSCA inventory.</b>																										
<b>SARA Title III Information:</b>	This product contains the following substances subject of the reporting requirements of Title III (EPCRA) of the Superfund amendments and Reauthorization Act of 1986 and 40 CFR Part 372:																										
<table border="1"> <thead> <tr> <th rowspan="2">Chemical</th> <th rowspan="2">CAS NO.</th> <th rowspan="2">Percent by Weight</th> <th rowspan="2">CERCLA RQ (lbs)*</th> <th colspan="3">SARA (1986) Reporting</th> </tr> <tr> <th>311</th> <th>312</th> <th>313</th> </tr> </thead> <tbody> <tr> <td>Urea</td> <td>57-13-6</td> <td>97.5 - 99.7</td> <td>NA</td> <td>Yes</td> <td>Yes</td> <td>NA</td> </tr> </tbody> </table>											Chemical	CAS NO.	Percent by Weight	CERCLA RQ (lbs)*	SARA (1986) Reporting			311	312	313	Urea	57-13-6	97.5 - 99.7	NA	Yes	Yes	NA
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				311	312	313																					
Urea	57-13-6	97.5 - 99.7	NA	Yes	Yes	NA																					
<b>CERCLA/Superfund, 40 CFR Parts 117, 302:</b>	If this product contains components subject to substances designated as CERCLA reportable Quantity (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If there is a release of RQ Substance to the environment, notification to the National response Center, Washington D.C. (1-800-424-8802) is required.																										
<b>CANADA:</b>	<b>WHMIS Hazard Symbol and classification:</b>				This product is not WHMIS controlled																						
	<b>Ingredient Disclosure List</b>				This product does not contain ingredient(s) on this list.																						
	<b>Environmental Protection:</b>				All intentional ingredients are listed on the DSL (Domestic Substance List).																						
<b>EINECS#:</b>	(Urea) 200-315-5																										
<b>California: Prop 65:</b>	This is not a chemical known to cause cancer, nor is it listed.																										

<b>NFPA Hazard Ratings:</b>	<b>Health:</b> 1	<b>Fire:</b> 0	<b>Reactivity:</b> 0	<b>Special Hazards:</b>		
	0 = Insignificant	1 = Slight	2 = Moderate	3 = High	4 = Extreme	
<b>COMMENTS:</b>	This product is TSE/BSE (Transmissible Spongiform Encephalopathy/Bovine Spongiform Encephalopathy) free. There are no animal constituents used in the manufacture of Urea, Dry for PCS Sales (USA) Inc. Our product is created through a chemical process.					
<b>Section(s) changed since last revision:</b>	X					
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