



Effective Date: 08/01/14

Replaces Revision: Not Applicable

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: UREA

Synonyms: Carbamide, Carbonyldiamide, Aquacare, Ureaphil

Chemical Formula: CH₄N₂O

Recommended Use of the Chemical and Restrictions On Use: Laboratory Chemicals

Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225

Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture: Not classified

Risk Phrases: None

Label Elements:

Trade Name: UREA

Signal Word: None

Pictogram: None

Hazard Statements: None

Precautionary Statements: None

3. Composition / Information on Ingredients

CAS Number: 57-13-6

EC Number: 200-315-5

Molecular Weight: 60.06 g/mol

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Urea	57-13-6	200-315-5	99 - 100%	Yes	Substance

4. First-aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Consult a physician.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

Eye Contact: Remove contacts, if present and easy to do so. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Consult a physician.

5. Fire-fighting Measures

Flammable Properties: Not considered to be a fire hazard. Reactions with incompatibles may pose an explosion hazard.

Fire Extinguishing Media: Use water spray, Alcohol-resistant foam, dry chemical or Carbon Dioxide.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment as specified in Section 8.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Ventilate area of leak or spill. Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not let product enter drains.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Keep away from heat and ignition sources. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids.) Observe all warnings and precautions listed for the product. Do not store above 23C (73.4F.)

8. Exposure Controls / Personal Protection

Airborne Exposure Limits: USA. Workplace Environmental Exposure Levels (WEEL) (TWA): 10 mg/m³

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. For emergencies or instances where the exposure levels are not known, use a full face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in Oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystalline or white powder

Odor: Ammonia-like

Odor Threshold: Not determined

pH: 7.5 - 9.5 at 480 g/l at 25C (77F)

% Volatiles by volume @ 21C (70F): 0

Melting Point: 133 - 135C (271 - 275F)

Boiling Point / Boiling Range: Decomposes

Flash Point: No data available

Evaporation Rate (BuAc=1): No data available

Flammability: No data available

Upper / Lower Flammability or Explosive Limits: No data available

Vapor Pressure (mm Hg): 0.009 hPa (0.007 mmHg) at 20C (68F)

Vapor Density (Air=1): No data available

Relative Density: 60.06 g/mol

Solubility: 480 g/l at 20C (68F) - completely soluble

Partition Coefficient: n-octanol / water: log Pow: -2.59 - -1.59

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary use and storage conditions.

Possibility of Hazardous Reactions and Conditions to Avoid: Incompatible materials, excess heat.

Incompatible Materials: Strong oxidizing agents. Reacts with Calcium Hypochlorite or Sodium Hypochlorite to form explosive Nitrogen Trichloride. Incompatible with Sodium Nitrite, Gallium Perchlorate, strong oxidizing agents (Permanganate, Dichromate, Nitrate, Chlorine), Phosphorus Pentachloride, Nitrosyl Perchlorate, Titanium Tetrachloride, and Chromyl Chloride.

Hazardous Decomposition Products: Ammonia, oxides of Nitrogen, Cyanuric Acid, Cyanic Acid, Biuret, Carbon Dioxide. Irritating and toxic fumes and gases.

11. Toxicological Information

Emergency Overview: WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Potential Health Effects:

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. May be absorbed into the bloodstream with symptoms similar to ingestion.

Ingestion: Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May also cause headache, confusion and electrolyte depletion.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact: Causes irritation, redness, and pain.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Urea (57-13-6)	No	No	None

Acute Toxicity: Oral rat LD50: 8471 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector.

12. Ecological Information

Ecotoxicity:

Toxicity to fish: LC50 - Poecilia reticulata (guppy) - 17,500 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 3,910 mg/l - 48 h

Persistence and Degradability: Low biodegradation potential.

Bioaccumulative Potential: Not expected to bioconcentrate.

Mobility in Soil: No information found.

Other adverse effects: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

Not regulated

Maritime Transport IMDG/GGVSea

Not regulated

Air Transport ICAO-TI and IATA-DGR

Not regulated

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Urea (57-13-6)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Urea (57-13-6)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List Chemical	Catg.
Urea (57-13-6)	No	No	No	No

Federal, State & International Regulations - Part 2

Ingredient	RCRA		TSCA	
	CERCLA	261.33	8(d)	
Urea (57-13-6)	No	No	No	

Chemical Weapons Convention: No		TSCA 12(b): No		CDTA: No	
SARA 311/312:	Acute: Yes	Chronic: Yes	Fire: No	Pressure: No	
Reactivity: No		Pure / Solid			

Australian Hazchem Code: Not classified

Poison Schedule: None allocated

16. Other Information

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO PURITAN PRODUCTS AT THIS TIME. WHILE BELIEVED TO BE ACCURATE, PURITAN PRODUCTS DOES NOT CLAIM IT TO BE ALL INCLUSIVE. IT IS PROVIDED INDEPENDENT OF ANY SALE OF THE PRODUCT, FOR THE PURPOSE OF HAZARD COMMUNICATION, AND AS A GUIDE FOR THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY PROPERLY TRAINED INDIVIDUALS. IT IS NOT INTENDED TO PROVIDE PRODUCT PERFORMANCE OR APPLICABILITY INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, THE UNDERLYING PRODUCT DATA, OR THE INFORMATION CONTAINED HEREIN.

YOU ARE URGED TO OBTAIN MATERIAL SAFETY DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED THEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY OR DAMAGE RESULTING FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.