1. Identification

1.1. Product identifier
Product Identity  Urea
Alternate Names  ACL-002, Carbamide, Carbonyldiamide, Urea

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use  See Technical Data Sheet.
Application Method  See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet
Company Name  7420 Airport Road - Unit 202
Mississauga, ON L4T 4E5

Emergency
24 hour Emergency Telephone No.  AGRICO (MISSISSAUGA) EMERGENCY ASSISTANCE
(905) 672-5700
CANUTEC 24 HOUR EMERGENCY 1-888-CAN-UTECA
(226-8832)
Customer Service:  (502)842 2633

2. Hazard(s) identification

2.1. Classification of the substance or mixture
Skin Irrit. 3:H316  Causes mild skin irritation (This category was not adopted by Canada)

2.2. Label elements

Warning
H316 Causes mild skin irritation.
[Prevention]:  No GHS prevention statements
[Response]:  P332+313 If skin irritation occurs: Get medical advice / attention.
[Storage]:  No GHS storage statements
[Disposal]:  No GHS disposal statements
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the Controlled Products Regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea CAS Number: 0000057-13-6</td>
<td>97.55</td>
<td>Not classified</td>
<td>[1]</td>
</tr>
</tbody>
</table>
| Imidodicarbonic diamide CAS Number: 0000108-19-0 | 1.05 | Skin Irrit. 2;H315  
Eye Irrit. 2;H319  
STOT SE 3;H335 | [1] |

[1] Substance classified with a health or environmental hazard.  
*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes
Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion
Induce vomiting if conscious. Never give anything by mouth to an unconscious person. Consult physician.

4.2. Most important symptoms and effects, both acute and delayed

Overview
At high dust concentrations, irritation of eyes, skin, and mucous membranes by chemical or mechanical action may occur.

Skin
Causes mild skin irritation.

5. Fire-fighting measures

5.1. Extinguishing media
Use water to control surrounding fire, if water is compatible with burning product.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: Ammonia, biuret, nitrogen oxides and carbon oxides. May react with hypochlorites to form explosive nitrogen trichloride.

5.3. Advice for fire-fighters
At elevated temperature, urea may decompose to form cyanuric acid, ammonia, biuret and nitrogen oxides. Wear self-contained breathing apparatus (positive pressure, if available) and full protective clothing.

ERG Guide No. ---

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions
Do not allow spills to enter drains or waterways. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up
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.

7. Handling and storage

7.1. Precautions for safe handling
Handle containers carefully to prevent damage and spillage. Keep dry. Avoid contact with the eye, dust inhalation and repeated or prolonged contact with the skin or clothes.

7.2. Conditions for safe storage, including any incompatibilities
Spilled urea, wet or dry, can cause slippery conditions. May be toxic to cattle (ruminants) when ingested. Incompatible materials: Nitric acid, sodium nitrite, nitrosyl perchlorate, gallium perchlorate, hypochlorites, phosphorus pentachloride. Avoid contact with strong oxidizers, acids or bases. May react with sodium or calcium hypochlorite to form nitrogen trichloride which explodes spontaneously in air.

7.3. Specific end use(s)
No data available.
8. Exposure controls and personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000057-13-6</td>
<td>Urea</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>AIHA Workplace Environmental Exposure Limit (WEEL): 10mg/m3, 8-hr TWA</td>
</tr>
<tr>
<td>0000108-19-0</td>
<td>Imidodicarbonic diamide</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

The exposure limits for nuisance dust are: OSHA PEL: 15 mg/m3 (50 mppcf*) TWA, ACGIH 10 mg/m3.

8.2. Exposure controls

**Respiratory**

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

**Eyes**

Protective safety glasses recommended

**Skin**

No protection required. If irritation occurs, long sleeves and impervious gloves should be worn.

**Engineering Controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

**Other Work Practices**

Washing stations should be available. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

9. Physical and chemical properties

**Appearance**

White, Granular Solid

**Odor**

No odor or slight odor of ammonia.

**Odor threshold**

Not determined
### Safety Data Sheet

**Urea**

**SDS Revision Date:** 02/21/2017

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.2 (10% sol.)</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>132.7°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Decomposes at 135°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td><strong>Lower Explosive Limit:</strong> Not Measured</td>
</tr>
<tr>
<td></td>
<td><strong>Upper Explosive Limit:</strong> Not Measured</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>80 Pa at 20°C (calc)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Complete</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Complete</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Density</td>
<td>44 - 49 lbs/cu. ft.</td>
</tr>
</tbody>
</table>

9.2. Other information

No other relevant information.

**10. Stability and reactivity**

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Nitric acid, sodium nitrite, nitrosyl perchlorate, gallium perchlorate, hypochlorites, phosphorus pentachloride. Avoid contact with strong oxidizers, acids or bases. May react with sodium or calcium hypochlorite to form nitrogen trichloride which explodes spontaneously in air.

10.6. Hazardous decomposition products

Ammonia, biuret, nitrogen oxides and carbon oxides. May react with hypochlorites to form explosive nitrogen trichloride.
11. Toxicological information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LC50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LC50, mg/L/4hr</th>
<th>Inhalation Gas LC50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea - (57-13-6)</td>
<td>14,300.00, Rat - Category: NA</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Imidodicarbonic diamide - (108-19-0)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Carcinogen Data

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000057-13-6</td>
<td>Urea</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td>0000108-19-0</td>
<td>Imidodicarbonic diamide</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
</tbody>
</table>

Classification

<table>
<thead>
<tr>
<th>Hazard Description</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>3</td>
<td>Causes mild skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
12. Ecological information

12.1. Toxicity
No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea - (57-13-6)</td>
<td>6,810.00, Fish</td>
<td>22,998.00, Daphnia magna</td>
<td>5,001.00 (72 hr), Algae</td>
</tr>
<tr>
<td>Imidodicarbonic diamide - (108-19-0)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
When released to soil, urea will hydrolyze into ammonium in a matter of days to several weeks. When released into water, this material may biodegrade to a moderate extent. When released into water, urea is expected to evaporate significantly bioaccumulation. When released into the air, urea is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, urea is expected to have a half-life of less than 1 day.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Whatever cannot be saved for recovery or recycling should be managed in 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

<table>
<thead>
<tr>
<th>DOT (Domestic Surface Transportation)</th>
<th>IMO / IMDG (Ocean Transportation)</th>
<th>ICAO/IATA</th>
</tr>
</thead>
</table>
Safety Data Sheet
Urea

14.1. UN number
Not Applicable

14.2. UN proper shipping name
Not Regulated

14.3. Transport hazard class(es)
DOT Hazard Class: Not Applicable
IMDG: Not Applicable
Sub Class: Not Applicable
Air Class: Not Applicable

14.4. Packing group
Not Applicable

14.5. Environmental hazards
IMDG Marine Pollutant: No;

14.6. Special precautions for user
No further information

15. Regulatory information
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.
Components are DSL Listed, NDSL Listed and/or are exempt from listing.
WHMIS Classification Not Regulated

16. Other information
SDS Revision Date 02/21/2017
The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.
The full text of the phrases appearing in section 3 is:
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
The information contained herein is furnished without warranty of any kind. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

End of Document