



# Safety Data Sheet

## Urea 50% (solution)



### 1. Identification

<b>Product identifier</b>	Urea 50% (solution)
<b>Product code</b>	N.Av.
<b>Other means of identification</b>	Urea 30% ; 40% ; 45% ; 70%. Ureaphil. Carbamide. Carbonyldiamide 50% solution.
<b>Recommended use of the chemical and restrictions on use</b>	Agricultural, fertilizer.
<b>Manufacturer</b>	Sylvite 3221 North Service Road, Suite 200 Burlington, Ontario Canada L7N 3G2 Tel. 1-800-229-0602 Fax 905-315-2083 <a href="https://www.sylvite.ca/">https://www.sylvite.ca/</a>
<b>Emergency phone number</b>	USA Poison Control number: 1-800-222-1222  Quebec Poison Center: 1-800-463-5060 (toll free in QC) Ontario and Manitoba Poison Centres: 1-800-268-9017 or 419-813-5900 BC Drug and Poison Information Centre: 1-800-567-8911 (toll free in BC) or contact your local poison control centre in the state/province or territory where you live. Canutec: 613-996-6666 (for transportation)

### 2. Hazard identification

<b>Summary</b>	This product must be transported hot (25 to 35 °C). The storage and shipment require insulated tanks to prevent crystallization of urea. Avoid contact with skin, eyes and clothing. Do not breathe vapours, mists or aerosols. Do not ingest. If ingested consult physician immediately and show this Safety Data Sheet. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved.
<b>WHMIS 2015/GHS/OSHA HCS 2012</b>	
<b>Not Regulated under WHMIS 2015/GHS</b>	
P101: If medical advice is needed, have product container or label at hand. P103: Read label before use.	

### 3. Composition/information on ingredients

Common name	CAS	Weight % content
Urea	57-13-6	49 - 51 %
Water	7732-18-5	49 - 51 %

## 4. First-aid measures

<b>Inhalation</b>	Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. If a problem develops or persists, seek medical attention.
<b>Skin contact</b>	Flush with plenty of water. Wash skin with warm water and mild soap. Remove contaminated clothing and wash before reuse. If a problem develops or persists, seek medical attention.
<b>Eye contact</b>	Flush with water for at least 15 minutes. Remove contact lenses if easy to do. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention.
<b>Ingestion</b>	DO NOT induce vomiting, unless recommended by medical personnel. If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink. Never give anything by mouth if victim is unconscious or convulsing. If a problem develops or persists, seek medical attention or contact a Poison Centre.
<b>Other</b>	No information available.
<b>Symptoms</b>	May cause redness and slight irritation of the skin and to eyes.
<b>Notes to the physician</b>	Apply a symptomatic and supportive treatment.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use an extinguishing agent appropriate for the surrounding fire.
<b>Specific hazards arising from the chemical</b>	This product is not flammable. Thermal decomposition products at elevated temperatures may include the following materials: biuret, ammonia (NH <sub>3</sub> ), cyanuric acid, hydrogen cyanide, nitrogen oxides, carbon dioxide (CO <sub>2</sub> ), carbon monoxide (CO).
<b>Special protective equipment</b>	Firefighters must wear self contained breathing apparatus with full face mask. Firefighting suit may not be efficient against chemicals.
<b>Special protective actions for fire-fighters</b>	Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

## 6. Accidental release measures


<b>Personal precautions, protective equipment and emergency procedures</b>	Do not touch spilled material. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.
<b>Environmental precautions</b>	Prevent entry into sewers, closed areas and release to the environment. Product will promote algae growth which may degrade water quality and taste. Notify downstream water users. For a large spill, consult the Department of Environment or the relevant authorities.
<b>Methods and materials for containment and cleaning up</b>	No action shall be taken involving any personal risk or without suitable training. Ventilate the area well. Stop leak if no risk. Contain spilled material. Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. Dispose via a licensed waste disposal contractor.

## 7. Handling and storage

<b>Precautions for safe handling</b>	This product must be transported hot (25 to 35 °C). The storage and shipment require insulated tanks to prevent crystallization of urea. Use in well ventilated area. Do not breathe vapours, mists or aerosols. Avoid contact with skin, eyes and clothing. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet. Keep containers tightly closed when not in use. Do not eat, do not drink and do not smoke during use. Wash hands, forearms and face thoroughly after
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	handling this compound and before eating, drinking or using toiletries. Remove contaminated clothing and wash before reuse.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in insulated tanks in order to prevent crystallization of urea. Store away from incompatible materials (see section 10). Keep in properly labelled containers. Protect container from physical damages. Keep away from freezing.
<b>Storage temperature</b>	25 to 35°C (77 to 95°F)

## 8. Exposure controls/personal protection

<b>Immediately Dangerous to Life or Health</b>	No IDLH value is reported.		
Urea	TWA (8h)	10 mg/m <sup>3</sup>	US AIHA
<b>Appropriate engineering controls</b>	Provide sufficient mechanical ventilation (general and/or local exhaust) to keep the airborne concentrations of vapours, mists, aerosols or dust below their respective occupational exposure limits.		
<b>Individual protection measures</b>			
<b>Eye</b>	Safety eyewear should always be used when there is a likelihood of exposure. If there is a risk of contact with eyes, wear chemical splash goggles.		
<b>Hands</b>	Wear nitrile or neoprene gloves. Disposable nitrile gloves can also be used, but discard after single use. Before using, user should confirm impermeability. Discard gloves with tears, pinholes, or signs of wear. Gloves must only be worn on clean hands. Wash gloves with water before removing them. After using gloves, hands should be washed and dried thoroughly.		
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.		
<b>Respiratory</b>	Respiratory protection is not required for normal use. Where the conditions in the workplace require a respirator, it is necessary to follow a respiratory protection program. Moreover, respiratory protection equipment (RPE) must be selected, fitted, maintained and inspected in accordance with regulations and standard 29 CFR 1910.134 (OSHA), ANSI Z88.2 or CSA Z 94.11 (Canada) and approved by NIOSH/MSHA. For dust nuisance exposures use type N95 particle respirator.		
<b>Feet</b>	Wear rubber boots to clean up a spill.		
 Goggles      Nitrile gloves			

## 9. Physical and chemical properties

<b>Physical state</b>	Hazy liquid	<b>Flammability</b>	Non-flammable
<b>Colour</b>	Colourless	<b>Flammability limits</b>	N/Ap.
<b>Odour</b>	Slight ammonia	<b>Flash point</b>	N/Ap.
<b>Odour threshold</b>	17 ppm	<b>Auto-ignition temperature</b>	N/Ap.
<b>pH</b>	9.5	<b>Sensibility to electrostatic charges</b>	No
<b>Melting point</b>	17.8°C (64°F)		No

		<b>Sensibility to sparks and/or friction</b>	
<b>Freezing point</b>	17.8°C (64°F)	<b>Vapour density</b>	0.6 (Air = 1)
<b>Boiling point</b>	>100°C (212°F)	<b>Relative density</b>	1.1 to 1.2 kg/L (Water = 1)
<b>Solubility</b>	Fully soluble in water.	<b>Partition coefficient n-octanol/water</b>	-1.59
<b>Evaporation rate</b>	< Butyl Acetate	<b>Decomposition temperature</b>	135°C (275°F)
<b>Vapour pressure</b>	1.9kPa (14.3 mm Hg)	<b>Viscosity</b>	N/Av.
<b>Percent Volatile</b>	N/Av.	<b>Molecular mass</b>	N/Av.
N/Av.: Not Available    N/Av.: Not Applicable    Und.: Undetermined    N/E: Not Established			

## 10. Stability and reactivity

<b>Reactivity</b>	Reacts with phosphorus pentachloride and sodium or calcium hypochlorite to form explosive nitrogen trichloride.
<b>Chemical stability</b>	Stable under normal conditions of use.
<b>Possibility of hazardous reactions (including polymerizations)</b>	A dangerous reaction will not occur.
<b>Conditions to avoid</b>	Avoid contact with incompatible materials. Avoid temperatures below 25 °C.
<b>Incompatible materials</b>	Strong oxidants, reducing agents, acids, strong bases, halogens, alkalis, hypochlorites, perchlorates, sodium nitrite, phosphorus pentachloride, chromyl chloride, polyethylene, iron and alloys, copper and alloys, aluminum and alloys, mild steel, zinc and alloys.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information


<b>Numerical measures of toxicity</b>	Urea Ingestion 8471 mg/kg    Rat    LD50 Skin    >21000 mg/kg    Rabbit    LD50
<b>Likely routes of exposure</b>	Skin, eyes, inhalation, ingestion.
<b>Delayed, immediate and chronic effects</b>	<p><b>Eye contact</b>      May cause redness and slight irritation of the eyes. The severity of symptoms may vary depending on exposure conditions. Eye Irritation, Rabbit: Urea onto eyes after 24 h is not irritating (OECD 405).</p> <p><b>Skin contact</b>      Prolonged and repeated contact may cause redness and slight irritation of the skin. Skin Irritation/Corrosion, Human : 30% Urea solutions in water/48 h; score from 0.8 to 2.4 on the scale 0-4 (Chamber-Scarification Test). Slightly irritating. (OECD SIDS). Skin Irritation/Corrosion, Human : 22 mg of urea/3 days (Intermittent); mild irritating (RTECS).</p> <p><b>Inhalation</b>      Exposure to high concentrations of vapour may cause coughing, sneezing, nose, throat and respiratory tract irritation.</p> <p><b>Ingestion</b>      Low degree of acute toxicity. May cause gastrointestinal irritation with nausea and vomiting. Swallowing a large amount of this product may cause diuretic effect.</p> <p><b>Respiratory or skin sensitization</b>    Ingredients present at levels greater than or equal to 0.1% of this product are not skin or respiratory sensitizers. No ingredients listed.</p>

	<p><b>IARC/NTP Classification</b></p> <p><b>Carcinogenicity</b> Ingredients present at levels greater than or equal to 0.1% of this product are not listed as a carcinogen by IARC, ACGIH, NIOSH, NTP or OSHA.</p> <p><b>Mutagenicity</b> Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effects.</p> <p><b>Reproductive toxicity</b> Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause reproduction effects.</p> <p><b>Specific target organ toxicity - single exposure</b> No target organ is listed.</p> <p><b>Specific target organ toxicity - repeated exposure</b> No target organ is listed.</p>
<b>Interactive effects</b>	No information available.
<b>Other information</b>	This product is on the US FDA's GRAS (GENERALLY REGARDED AS SAFE) list. Urea has been used in human medicine as diuretic at doses of 15 to 60 grams/day.

## 12. Ecological information

<b>Ecological toxicity</b>	Aquatic Invertebrate - Daphnia Magna (static) EC50 3910 mg/L; 48h (Urea, CAS no 57-13-6) Fish - Guppy - Poecilia reticulata (static) LC50 17500 mg/L; 96h (Urea, CAS no 57-13-6)
<b>Persistence</b>	No persistent.
<b>Degradability</b>	In soil and water urea is expected to biodegrade fairly rapidly to ammonia and bicarbonate if temperature is not too low. Biodegradable from 1 to 20 day (OECD 302B).
<b>Bioaccumulative potential</b>	The inorganic products of this kind are not expected to accumulate in living organisms, but they are expected to accumulate in plants. Log Pow of -1.59. Bioconcentration Factor (BCF) of 1
<b>Mobility in soil</b>	The product is soluble in water, it is not expected to partition to the soil.
<b>Other adverse effects</b>	Product will promote algae growth which may degrade water quality and taste. The degradation product of urea, ammonia, is known to be toxic to all vertebrates. In neutral and acidic conditions, however, ammonia exists in the form of ammonium. This chemical does not deplete the ozone layer.

## 13. Disposal considerations

<p><b>Container</b></p> 	Important! Prevent waste generation. Use in full. DO NOT dispose residue in sewers, streams or drinking water supply. Dispose via a licensed waste disposal contractor. Empty containers can be treated (recycled) where there is a recovery program. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.
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## 14. Transport information

<b>UN Number</b>	UN
<b>UN Proper Shipping Name</b>	Not regulated by TDG (Canada) and 49 CFR DOT (USA).
<b>Environmental hazards</b>	This material does not contain marine pollutant.
<b>Special precautions for user</b>	No information available.

**TDG - Transportation of Dangerous Goods (Canada)**

<b>Transport hazard class(es)</b>	Not regulated
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<b>Packing group</b>	Not regulated
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<b>Emergency response guidebook 2016</b>	
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**IMO/IMDG - International Maritime Transport**

<b>Classification</b>	Not regulated
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**IATA - International Air Transport Association**

<b>Classification</b>	Not regulated
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These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. In addition, if a domestic exemption exists, it is the responsibility of the shipper to define the application of it.

**15. Regulatory information****CANADA**

Common name	CAS	CEPA	DSL	NDSL	NPRI
Urea	57-13-6		X		
Water	7732-18-5		X		

- CEPA: List of Toxic Substances Managed Under Canadian Environmental Protection Act

- DSL: Domestic Substances List Inventory

- NDSL: Non-Domestic Substances List Inventory

- NPRI: National Pollutant Release Inventory Substances

**UNITED STATE OF AMERICA**

Common name	CAS	TSCA	CER CLA	EPCRA 313	EPCRA 302/304	CAA 112(b) HON	CAA 112(b) HAP	CAA 112(r)	CWA 311	CWA Prio.
Urea	57-13-6	X								
Water	7732-18-5	X								

- TSCA: Toxic Substance Control Act

- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act list of hazardous substances

- EPCRA 313: Emergency Planning and Community Right-to-Know Act, Section 313 Toxic Chemicals

- EPCRA 302/304: Emergency Planning and Community Right-to-Know Act, Section 302/304 Extremely Hazardous Substances

- CAA 112(b) HON: Clean Air Act - Hazardous Organic National Emission Standard for Hazardous Air Pollutant

- CAA 112(b) HAP: Clean Air Act - Hazardous Air Pollutants lists pollutants

- CAA 112(r): Clean Air Act - Regulated Chemicals for Accidental Release Prevention

- CWA 311: Clean Water Act - List of Hazardous Substances

- CWA Priority: Clean Water Act - Priority Pollutant list

**California Proposition 65**

No ingredients listed.

**Other regulations**

UNITED STATE OF AMERICA:

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA-Inerts) Inert Ingredients in Pesticide Products:  
This material is listed.

CANADA :

- Fertilizers Regulations (C.R.C., c. 666):

This material is listed.

- Feeds Regulations, 1983 (SOR/83-593):

This material is listed.

**HMIS**

1	Health
0	Flamability
0	Reactivity
B	Protective Equipment

**NFPA****16. Other information**

<b>Date (YYYY-MM-DD)</b>	Sylvite 2017-03-07
<b>Version</b>	03
<b>Other information</b>	<p>DATE OF SECOND VERSION OF SDS: 2016-02-19.</p> <p>CHANGES MADE IN THE VERSION 03: sections 3 and 12.</p> <p>DATE OF FIRST VERSION OF SDS: 2013-06-06.</p> <p>CHANGES MADE IN THE VERSION 02: sections 2, 3, 11 and 15.</p> <p>REFERENCES:</p> <ul style="list-style-type: none"> <li>- Haz-Map, Information on Hazardous Chemicals and Occupational Diseases, <a href="https://haz-map.com/">https://haz-map.com/</a></li> <li>- TOXNET Databases, Toxicology Data Network, NIH U.S. National Library of Medicine, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a></li> <li>- OECD Existing Chemicals Database, Chemicals Screening Information DataSet (SIDS) for High Volume Chemicals, UNEP publications, <a href="http://webnet.oecd.org/HPV/UI/Search.aspx">http://webnet.oecd.org/HPV/UI/Search.aspx</a></li> <li>- Service du répertoire toxicologique de la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), <a href="http://www.reptox.csst.qc.ca">http://www.reptox.csst.qc.ca</a></li> <li>- Toxicological Review, Integrated Risk Information System (IRIS), USA Environment Protection Agency, <a href="http://www.epa.gov/iris">www.epa.gov/iris</a></li> <li>- IPCS INCHEM, Chemical Safety Information from Intergovernmental Organizations, Canadian Centre for Occupational Health and Safety (CCOHS), Copyright International Programme on Chemical Safety (IPCS), <a href="http://www.inchem.org">http://www.inchem.org</a></li> <li>- Urea, The Registry of Toxic Effects of Chemical Substances, RTECS #: YR6250000.</li> </ul> <p>ACGIH: American Conference of Governmental Industrial Hygienists  AIHA: American Industrial Hygiene Association  HMIS: Hazardous Materials Identification System  NFPA: National Fire Protection Association  OSHA: Occupational Safety and Health Administration (USA)  NIOSH: National Institute for Occupational Safety and Health  NTP: National Toxicology Program  RSST: Règlement sur la santé et la sécurité du travail (Québec)  GHS: Globally Harmonized System  IARC: International Agency for Research on Cancer  IDLH: Immediately Dangerous to Life or Health  STEL: Short Term Exposure Limit (15 min)  TWA: Time Weighted Averages  WHMIS: Workplace Hazardous Materials Information System</p> <p>To the best of our knowledge, the information contained herein is accurate. However, neither Prizventis System nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p>