

# SAFETY DATA SHEET

According to US Regulation 29 CFR 1910.1200 (HazCom 2012)

## 1. Identification

**Product identifier:** Urea

### Other means of identification

**Product No.:** 4202, 4203, 4204, 4205, 4206, 4208, 4111, 7729, 7739, 7759, 7816, 8642, 8648

### Recommended restrictions

**Recommended use:** For Laboratory, Research or Manufacturing Use.

**Restrictions on use:** Not determined.

### Details of the supplier of the safety data sheet

**Company Name:** Avantor Performance Materials, LLC  
**Address:** 100 Matsonford Rd, Suite 200  
Radnor, PA 19087

**Telephone:** Customer Service: 855-282-6867

**Contact Person:** Product Information Compliance  
**E-mail:** info@avantormaterials.com

### Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada

## 2. Hazard(s) identification

### Hazard Classification

Not classified

### Label Elements

**Hazard Symbol:** No symbol

**Signal Word:** No signal word.

**Hazard Statement:** Not applicable

**Precautionary Statements** Not applicable

**Hazard(s) not otherwise classified (HNOC):** None.

## 3. Composition/information on ingredients

**Substances**

**Composition Comments:** The components are not hazardous or are below required disclosure limits.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist.

**Skin Contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** None known.

**Hazards:** None known.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General Fire Hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** None known.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

<b>Personal precautions, protective equipment and emergency procedures:</b>	Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
<b>Methods and material for containment and cleaning up:</b>	Shovel up and place in a container for salvage or disposal. Clean surface thoroughly to remove residual contamination. Avoid dust formation.
<b>Notification Procedures:</b>	Inform authorities if large amounts are involved.
<b>Environmental Precautions:</b>	Prevent further leakage or spillage if safe to do so.

**7. Handling and storage**

<b>Precautions for safe handling:</b>	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Avoid inhalation of dust and vapors. Do not taste or swallow. Wash hands thoroughly after handling. Use only with adequate ventilation.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

**8. Exposure controls/personal protection**

**Control Parameters**

**Occupational Exposure Limits**

None of the components have assigned exposure limits.

**Appropriate Engineering Controls**

No data available.

**Individual protection measures, such as personal protective equipment**

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Skin Protection**

**Hand Protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Solid
<b>Form:</b>	Crystals or powder
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	7.2 (100 g/l, 20 °C)
<b>Melting point/freezing point:</b>	132.7 - 134 °C
<b>Initial boiling point and boiling range:</b>	(Decomposes)
<b>Flash Point:</b>	Not applicable
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	0.002 Pa (25 °C)
<b>Vapor density:</b>	No data available.
<b>Density:</b>	1.32 - 1.33 g/ml (20 °C)
<b>Relative density:</b>	1.32 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	624 g/l (20 °C) 545 g/l (25 °C)
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	-2.11
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

### Other information

<b>Molecular weight:</b>	60.06 g/mol (CH <sub>4</sub> N <sub>2</sub> O)
--------------------------	--

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Excessive heat.
<b>Incompatible Materials:</b>	Strong oxidizing agents. Chlorinated compounds.
<b>Hazardous Decomposition Products:</b>	Thermal decomposition may produce oxides of carbon and nitrogen. ammonia

## 11. Toxicological information

**Information on likely routes of exposure**

- Inhalation:** May be irritating to the respiratory tract. The effects are reversible.
- Skin Contact:** Prolonged skin contact may cause temporary irritation.
- Eye contact:** May cause temporary eye irritation.
- Ingestion:** Expected to be a low ingestion hazard.

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

- Oral**
- Product:** LD 50 (Rat): 8,471 - 15,000 mg/kg
- Dermal**
- Product:** No data available.
- Inhalation**
- Product:** No data available.

**Repeated dose toxicity**

- Product:** No data available.

**Skin Corrosion/Irritation**

- Product:** Prolonged skin contact may cause temporary irritation.

**Serious Eye Damage/Eye Irritation**

- Product:** May cause temporary eye irritation.

**Respiratory or Skin Sensitization**

- Product:** Not a skin nor a respiratory sensitizer.

**Carcinogenicity**

- Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ Cell Mutagenicity**

- In vitro**
- Product:** No mutagenic components identified
- In vivo**
- Product:** No mutagenic components identified

**Reproductive toxicity**

- Product:** No components toxic to reproduction

**Specific Target Organ Toxicity - Single Exposure**

- Product:** Not known.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** None known.

**Aspiration Hazard**

**Product:** Not classified

**Other effects:** None known.

<b>12. Ecological information</b>
-----------------------------------

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** The product is moderately biodegradable.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: -2.11

**Mobility in soil:** No data available.

**Other adverse effects:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<b>13. Disposal considerations</b>
------------------------------------

<b>Disposal instructions:</b>	Discharge, treatment, or disposal may be subject to national, state, or local laws.
<b>Contaminated Packaging:</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

#### 14. Transport information

**DOT**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

#### 15. Regulatory information

**US Federal Regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

None present or none present in regulated quantities.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Not classified

**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

None present or none present in regulated quantities.

**SARA 311/312 Hazardous Chemical**

None present or none present in regulated quantities.

**SARA 313 (TRI Reporting)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):**

None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**

No ingredient requiring a warning under CA Prop 65.

- US. New Jersey Worker and Community Right-to-Know Act**  
No ingredient regulated by NJ Right-to-Know Law present.
- US. Massachusetts RTK - Substance List**  
No ingredient regulated by MA Right-to-Know Law present.
- US. Pennsylvania RTK - Hazardous Substances**  
No ingredient regulated by PA Right-to-Know Law present.
- US. Rhode Island RTK**  
No ingredient regulated by RI Right-to-Know Law present.

**International regulations**

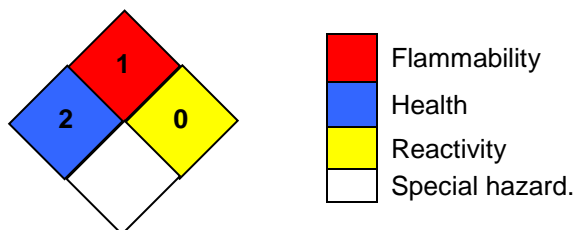
- Montreal protocol**  
Not applicable
- Stockholm convention**  
Not applicable
- Rotterdam convention**  
Not applicable
- Kyoto protocol**  
Not applicable

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

**Issue Date:** 05-16-2019

SDS\_US - SDS000000824



<b>Revision Information:</b>	Not relevant.
<b>Version #:</b>	1.4
<b>Source of information:</b>	Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.
<b>Further Information:</b>	No data available.
<b>Disclaimer:</b>	The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR PERFORMANCE MATERIALS ("AVANTOR") EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of Avantor's products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR DISCLAIMS LIABILITY FOR, AND BY USING AVANTOR'S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL AVANTOR BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.