

Section 1. Identification

Product identifier : ESN® Polymer Coated Urea 44-0-0
Chemical identity : Urea
Other means of identification : Product code: 2353-14250; 3196-14250; 4886-14250; 5057-14250; 5236-14250
Product type : Granular solid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Fertiliser.	
Uses advised against	Reason
Not applicable	Non-hazardous substance.

Supplier's details : Manufacturer:
 Agrium Wholesale
 13131 Lake Fraser Drive, S.E.
 Calgary, Alberta, Canada, T2J 7E8

Agrium U.S. Inc.
 Suite 1700, 4582 South Ulster St.
 Denver, Colorado, U.S.A., 80237

Supplier:
 Landmark Operations Limited
 380 La Trobe Street
 Melbourne, Victoria, Australia, 3000
 1800 888 642

Emergency telephone number (with hours of operation) : **Agrium Global 24 hour Emergency Telephone Number**

In case of transportation emergencies, or medical emergencies, involving Agrium products, call:
 00-1-303-389-1654

Section 2. Hazard(s) identification

Classification of the substance or mixture : The product is NOT classified as hazardous.

GHS label elements

Hazard pictograms : Not applicable.

Signal word : No signal word.

Hazard statements : Not applicable.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Section 2. Hazard(s) identification

Supplemental label elements : Not applicable.

Other hazards which do not result in classification : None known.

Section 3. Composition and ingredient information

Substance/mixture : An article containing a multi-constituent substance.

Chemical identity : Urea

Other means of identification : Product code: 2353-14250; 3196-14250; 4886-14250; 5057-14250; 5236-14250

Ingredient name	% (w/w)	CAS number
Urea	> 95%	57-13-6
Urea, reaction products with formaldehyde	< 1%	68611-64-3
Biuret	< 1%	108-19-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : May cause irritation due to mechanical action. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.
- Skin contact** : No known significant effects. Rinse the affected areas with water. Remove contaminated clothing, jewelry, and shoes. Wash/clean items before reuse. Seek medical attention for persistent skin pain or irritation. For additional advice call the medical emergency number on this SDS or your poison center or physician.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards. May cause irritation due to mechanical action.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data. May cause irritation due to mechanical action.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. For professional, multilingual, medical support, in case of medical emergencies involving Agrium products, telephone the Agrium global 24 hour Emergency Number: 00-1-303-389-1654.
- Specific treatments** : No specific treatment. Treat symptomatically.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
Ammonia

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : If mixed with chlorine or hypochlorites, it may form nitrogen trichloride which may explode spontaneously in air.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Move containers from spill area. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle, if possible.
or
Dispose of via a licensed waste disposal contractor.
- Large spill** : No additional information.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Do not ingest. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Australian Workplace Exposure Standards for Airborne Contaminants:	No exposure standard allocated.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : No specific hazard.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : The personal protective equipment required varies, depending upon your risk assessment. No special protection is required.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Cotton or cotton/synthetic overalls or coveralls are normally suitable.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special measures are typically indicated.
- Respiratory protection** : No personal respiratory protective equipment is normally required.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. Pellets.
Colour	: Light green.
Odour	: Odourless.
Odour threshold	: Not available.
pH	: Not available.
Melting point	: 133°C (271.4°F)
Boiling point	: Not available.
Flash point	: [Product does not sustain combustion.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Non-flammable substance. Non-combustible.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapour pressure	: 0.011 kPa (0.08 mm Hg) [room temperature]
Vapour density	: Not applicable.
Relative density	: 1.33
Solubility	: Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: -1.56
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: Not considered to be reactive.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: May react or be incompatible with acids. May react or be incompatible with alkalis. Incompatible with halogens.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Oral	Mouse - Male	11 g/kg	-
	LD50 Oral	Rat - Male	8471 mg/kg	-
	LD50 Subcutaneous	Mouse - Female	9200 mg/kg	-
	TDL _o Oral	Cattle - Male, Female	200 mg(N)/kg	-

Conclusion/Summary : Very low toxicity to humans or animals.

Section 11. Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Urea	Skin	Human	0	72 hours 22 milligrams Intermittent	-

Conclusion/Summary

- Skin** : Non-irritating to the skin.
Eyes : May cause irritation due to mechanical action.
Respiratory : Non-irritating to the respiratory system.

Sensitisation

Not available.

Conclusion/Summary

- Skin** : Non-sensitiser to skin.
Respiratory : Non-sensitiser to lungs.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Urea	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Cell: Somatic Metabolic activation: With and without	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	Negative - Oral - TC	Rat - Male, Female	2250 mg/kg Continuous	-

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Routes of entry anticipated: Inhalation.
Routes of entry not anticipated: Dermal, Oral.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards. May cause irritation due to mechanical action.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data. May cause irritation due to mechanical action.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Urea	Chronic NOAEL Oral	Rat - Male, Female	2250 mg/kg Continuous	12 months Continuous

Conclusion/Summary : No known significant effects or critical hazards.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Urea	Acute EC50 >10000 mg/l Fresh water	Daphnia - Daphnia magna	24 hours
	Acute LC50 22.5 ppt Fresh water	Fish - Oreochromis mossambicus - Young	96 hours
	Acute LC50 22500 mg/l Fresh water	Fish - Tilapia mossambica	96 hours

Conclusion/Summary : No known significant effects or critical hazards.

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Urea	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	96 % - Readily - 16 days	-	-

Conclusion/Summary : Readily biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Urea	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Urea	<-1.73	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 0.037

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	ADG	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not available.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Canada	: This material is listed or exempted.
China	: All components are listed or exempted.
Europe	: This material is listed or exempted.
Japan	: All components are listed or exempted.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: Not determined.
Turkey	: Not determined.
United States	: This material is listed or exempted.

Section 16. Any other relevant information

History

Date of printing	: 4/19/2017
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Version	: 1

Section 16. Any other relevant information

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Key to abbreviations :

- ADG = Australian Dangerous Goods
- AICS = Australian Inventory of Chemical Substances
- ATE = Acute Toxicity Estimate
- CAS = Chemical Abstracts Service
- EC50 = Half maximal effective concentration
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- LD50 = Median lethal dose
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- NICNAS = Australian National Industrial Chemicals Notification and Assessment Scheme
- SCBA = Self-Contained Breathing Apparatus
- SDS = Safety Data Sheet
- SUSMP = Standard Uniform Schedule of Medicine and Poisons

Procedure used to derive the classification

Classification	Justification
The product is NOT classified as hazardous.	Weight of evidence

References :

- REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.
- ECHA, European Chemicals Agency, Classification and Labelling Database
- DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
- Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.
- REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.
- American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
- Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
- ERG 2012 Emergency Response Guidebook
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
- The Fertilizer Institute, Toxicity Testing Results, March 2003
- Australia - National pollutant inventory - Substance list
- NICNAS = Australian National Industrial Chemicals Notification and Assessment Scheme
- Safe Work Australia
- Transportation - Australia - ADG - Regulatory Table Information

Indicates information that has changed from previously issued version.

Notice to reader

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Section 16. Any other relevant information

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