

ESN® Polymer Coated Urea 44-0-0

Section 1. Identification

GHS product identifier : ESN® Polymer Coated Urea 44-0-0
Other means of identification : Product code: 2353-14250; 3196-14250; 4886-14250; 5236-14250
 Historic MSDS #: 14250
Product type : Granular solid.

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

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

Supplier's details : Agrium
 North American 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

Emergency telephone number (with hours of operation) : Agrium North American 24 Hr Emergency Telephone Numbers:
 English:
 Transportation Emergencies: 1-800-792-8311
 Medical Emergencies: 1-303-389-1653

 French or Spanish:
 Transportation or Medical Emergencies: 1-303-389-1654

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Hazard pictograms : **Not Applicable.**
No Applicable.
Non applicable.

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

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. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Multi-constituent substance

CAS number/other identifiers

CAS number : Not applicable.

| Ingredient name | % | CAS number |
|--|-----|------------|
| Urea | >95 | 57-13-6 |
| Castor oil, polymer with polymethylenepolyphenylene isocyanate | 4 | 67700-69-0 |
| Urea, reaction products with formaldehyde | <1 | 68611-64-3 |
| Imidodicarbonic diamide (Biuret) | <1 | 108-19-0 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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** : 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 and keep comfortable for breathing. Get medical attention if symptoms occur. 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.
- Skin contact** : No known effect after skin contact. Rinse with water for a few minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- 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.

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

- Notes to physician** : 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. 24 Hr Medical Emergency telephone number for professional support: English: 1-303-389-1653; French or Spanish: 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : 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

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 : Non-flammable substance. Non-combustible.

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. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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 spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Recover the material and use it for the intended purpose.
or
Vacuum or sweep up material and place in a designated, labeled waste container. 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 : Workers should wash hands and face before eating, drinking and smoking. Do not ingest. 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 a dry, cool and well-ventilated area. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| <u>Ingredient name</u> | <u>Exposure limits</u> |
|--|---|
| ESN Polymer Coated Urea 44-0-0 | OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ . |
| Urea | AIHA WEEL (United States): Total dust TWA (8 hours): 10 mg/m ³ |
| Castor oil, polymer with polymethylenepolyphenylene isocyanate | OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ . |
| Urea, reaction products with formaldehyde | OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ . |
| Biuret | OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ . |

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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.
Possible: sealed eyewear

Skin protection

Hand protection

: No special protection is required.

Body protection

: No special protective clothing is required.

Other skin protection

: Not applicable.

Respiratory protection

: No personal respiratory protective equipment normally required.

Section 9. Physical and chemical properties

Appearance

Physical state

: Solid. Pellets.

Color

: Green or blue.

Odor

: Odorless.

Odor 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.

Vapor pressure

: 0.011 kPa (0.08 mm Hg) [room temperature]

Vapor density

: Not applicable.

Section 9. Physical and chemical properties

| | |
|---|---|
| Relative density | : 0.78 |
| 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 | : Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, nitric acid, oxidizing agents and sulfuric acid. |
| 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 | : No specific data. |
| 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 LD50 Oral | Mouse - Male Rat - Male | 11 g/kg 8471 mg/kg | - - |

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

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|------------------------------------|---------|-------|----------|-------------|
| Urea | Skin - Non-irritating to the skin. | Human | 0 | - | - |

Conclusion/Summary

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

Sensitization

Conclusion/Summary

- Skin** : Non-sensitizer to skin.
- Respiratory** : Non-sensitizer 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

Section 11. Toxicological information

| 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

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

Teratogenicity

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

| Name | Result |
|----------------|--------|
| Not applicable | |

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

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

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.

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 and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

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

Section 11. Toxicological information

Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-------------------------------------|--|----------|
| Urea | Acute EC50 3910000 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1000 mg/l Marine water | Crustaceans - Chaetogammarus marinus - Young | 48 hours |
| | Acute LC50 22.5 mg/l Fresh water | Fish - Oreochromis mossambicus - Young | 96 hours |
| | Chronic NOEC 2 g/L Fresh water | Fish - Heteropneustes fossilis | 30 days |

Conclusion/Summary : Practically non-toxic to aquatic organisms.

Persistence and degradability

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 minimized wherever possible. Avoid disposal. Attempt to use product completely in accordance with intended use. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | ADR/RID | IMDG | IATA |
|-----------------------------------|--------------------|--------------------|-----------------------|----------------|----------------|----------------|
| UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - | - | - | - |
| Transport hazard class(es) | - | - | - | - | - | - |
| Packing group | - | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. | No. |
| | | | | | | |

Section 14. Transport information

| | | | | | | |
|-------------------------------|---|---|---|---|---|---|
| Additional 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 73/78 and the IBC Code :

Proper shipping name : Not a pollutant.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules:** biuret; Urea, reaction products with formaldehyde
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
TSCA 8(b) inventory: This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|------|-----|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Urea | >95 | No. | No. | No. | No. | No. |

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

Not listed.

International regulations

International lists

National inventory

Australia : All components are listed or exempted.

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.

Section 15. Regulatory information

| | |
|--------------------------|--|
| 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. |

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | |
|------------------|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazards | 0 |
| | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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History

Date of issue/Date of revision : 5/13/2015.

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Version : 1

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

References :

- Transportation of Dangerous Goods Act and Clear Language Regulations, current revision, Transport Canada.
- Hazardous Products Act "Ingredient Disclosure List", Health Canada
- Domestic Substances List, Environment Canada.
- 29 CFR Part 1910
- 33 CFR Parts 151, 153, 154, 156
- 40 CFR Parts 1-799
- 46 CFR Part 153
- 49 CFR Parts 1-199
- American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
- NFPA 704, National Fire Codes Online, National Fire Protection Association, current edition at time of MSDS preparation.
- Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers

Section 16. Other information

- ERG 2012 Emergency Response Guidebook
- HSDB: Hazardous Substances Data Bank. National Library of Medicine, Bethesda, Maryland
- IRIS: Integrated Risk Information System. U.S. Environmental Protection Agency, Washington, D.C.
- NIOSH: Pocket Guide to Chemical Hazards. National Institute for Occupational Safety and Health, Cincinnati, Ohio ;
- ATSDR - Agency for Toxic Substances and Disease Registry - U.S. Dept. of Health and Human Services, Atlanta, Georgia
- National Toxicology Program (NTP) Division of the National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, North Carolina.
- RTECS®: Registry of Toxic Effects of Chemical Substances. National Institute for Occupational Safety and Health, Cincinnati, Ohio
- The Fertilizer Institute, Toxicity Testing Results, March 2003
- ECHA European Chemicals Agency Classification and Labelling Database
- The Fertilizer Institute, Product Toxicology Testing Program Results, TFI, Washington , D.C., 2003

✔ Indicates information that has changed from previously issued version.

[Notice to reader](#)

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