

SAFETY DATA SHEET

1. Identification

Product identifier UREA, REAGENT (ACS)

Other means of identification

Product code AEB2038

Synonym(s) Carbamide

Recommended use professional, scientific and technical activities: other professional, scientific and technical activities

Recommended restrictions None known.

Manufacturer/importer/Supplier/distributor information

Company name Alpha Resources Inc.

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Stevensville

MI

49127 US

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2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA hazard(s) Not classified.

No hazards resulting from the material as supplied.

Label elements

Hazard symbol No symbol.

Signal word Not available.

Hazard statement Not available.

Precautionary statement

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Substances

Hazardous components

Chemical name	Common name and synonyms	CAS number	%
UREA	Carbamide	57-13-6	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Not available.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media Water.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical Not applicable.

Special protective equipment and precautions for firefighters Wear suitable protective equipment.

Fire-fighting equipment/instructions In the event of fire, cool tanks with water spray.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Not available.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling Avoid prolonged exposure. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Use care in handling/storage. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Material	Type	Value	Form
UREA (CAS 57-13-6)	TWA	10 mg/m3	Total particulate.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls 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.

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection Wear protective gloves.

Other Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not available.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance Crystalline.

Physical state Solid.

Form Crystalline powder.

Color White.

Odor	slight ammoniacal
Odor threshold	Not available.
pH	7.2 10% solution
Melting point/freezing point	270.9 °F (132.7 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.000002 kPa at 25 °C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	-2.1
Auto-ignition temperature	Not available.
Decomposition temperature	When heated to decomp, emits toxic fumes of nitrogen oxides.
Viscosity	Not available.
Other information	
Density	1.32 g/cm3 estimated
Dynamic viscosity	1.78 mPa.s 1.9 mPa.s
Dynamic viscosity temperature	278.6 °F (137 °C) 68 °F (20 °C)
Molecular formula	C-H4-N2-O
Molecular weight	60.06 g/mol
Percent volatile	0 %
Specific gravity	1.323 at 20 °C
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	None under normal conditions.
Incompatible materials	None known.
Hazardous decomposition products	Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Ingestion	Based on available data, the classification criteria are not met.
Inhalation	Due to lack of data the classification is not possible.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Due to lack of data the classification is not possible.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
UREA (CAS 57-13-6)		
Acute		
<i>Oral</i>		
LD50	Rat	8471 mg/kg
	Sheep	28500 mg/kg
<i>Other</i>		
LD50	Mouse	4600 mg/kg
	Rat	5300 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Due to lack of data the classification is not possible.
Serious eye damage/eye irritation	Due to lack of data the classification is not possible.
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Product	Species	Test Results	
UREA (CAS 57-13-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	6119 - 7061 mg/l, 48 hours
		Water flea (Daphnia magna)	6390 mg/l, 24 hours
			3910 mg/l, 48 hours
	LC50	Rohu (Labeo rohita)	19400 - 19709 mg/l, 24 hours
			18291 - 19378 mg/l, 48 hours
			18225 - 18403 mg/l, 72 hours
			139.4 mg/l, 96 hours
			135 - 143.8 mg/l, 96 hours
			127.9 mg/l, 96 hours
			123.5 - 132.4 mg/l, 96 hours
			117.3 mg/l, 96 hours
			115.2 - 124.2 mg/l, 96 hours
			113.2 - 121.4 mg/l, 96 hours
			99.5 mg/l, 96 hours
			95.7 - 103.3 mg/l, 96 hours
			94.7 - 102.1 mg/l, 96 hours

Product	Species	Test Results
		92.5 mg/l, 96 hours
		88.6 - 96.6 mg/l, 96 hours
		86.3 - 93.9 mg/l, 96 hours
		80 - 86.9 mg/l, 96 hours
		69.3 - 75.9 mg/l, 96 hours
		63.1 - 70.5 mg/l, 96 hours
		61.5 - 70.2 mg/l, 96 hours
		60.3 - 69.2 mg/l, 96 hours
		20.3 - 26.5 mg/l, 96 hours
		13.8 - 19.6 mg/l, 96 hours
Fish	LC50	Water flea (<i>Daphnia magna</i>) > 10000 mg/l, 24 hours
		Carp (<i>Leuciscus idus melanotus</i>) > 10000 mg/l, 48 hours
		Giant gourami (<i>Colisa fasciata</i>) 9 mg/l, 24 hours
		8 mg/l, 48 hours
		6.5 mg/l, 72 hours
		5 mg/l, 96 hours
		Guppy (<i>Poecilia reticulata</i>) 27000 - 28200 mg/l, 24 hours
		22295 mg/l, 48 hours
		18728 mg/l, 72 hours
		16200 - 18300 mg/l, 96 hours
		Harlequinfish, red rasbora (<i>Rasbora heteromorpha</i>) 21000 mg/l, 24 hours
		15000 mg/l, 48 hours
		12000 mg/l, 96 hours
		Mozambique tilapia (<i>Tilapia mossambica</i>) 22500 mg/l, 96 hours
		1240 mg/l, 96 hours
		1230 - 1412 mg/l, 96 hours
		1085 mg/l, 96 hours
		590 - 730 mg/l, 96 hours
		22.5 mg/l, 96 hours
		Snake-head catfish (<i>Channa punctata</i>) 25000 mg/l, 24 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)
-2.11

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Local disposal regulations Not available.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous good.

IMDG

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

15. Regulatory information

US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

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

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA) Total food additive
Direct food additive
GRAS food additive

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

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

Issue date	May-14-2013
Version #	01
Further information	Not available.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Product and Company Identification: Synonyms Physical & Chemical Properties: Multiple Properties