

SAFETY DATA SHEET

Section 1: Identification

1.1 Product identifier:
pHIX

1.2 Recommended use of the chemical and restrictions on use:
Agricultural fertilizer

1.3 Details of the supplier of the Safety Data Sheet:
Omex Agriculture Inc.
290 Agri Park Road
Oak Bluff, MB, Canada
R4G 0A5
Web address: www.omexcanada.com
(204) 477-4052

Section 2: Hazards Identification

2.1 Classification of the substance or mixture according to GHS Classifications (UNECE 3rd Revised Edition):
Eye Damage Category 1; H318: Causes serious eye damage.

2.2 Label elements:



Danger
H318: Causes serious eye damage.
Prevention

P280: Wear protective gloves/protective clothing and eye protection/face protection.

Response

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards:

May cause serious skin irritation. May be harmful if swallowed. May cause respiratory tract irritation.
Use caution when mixing this product with other agricultural chemicals; some chemicals may be incompatible.

2.4 Other hazard classifications:

Canada: This is a controlled product under WHMIS.



D2B : Material causing other toxic effects - Eye damage.

USA: This material is considered a hazardous chemical by the OSHA Hazard Communication Standard 29CFR 1910.1200 (2012).

Section 3: Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt.%</u>	<u>GHS Classifications</u> according to UNECE 3 rd Revised Edition
Urea sulfate	21351-39-3	60 - 80	Eye damage Cat. 1; H318



SAFETY DATA SHEET

Section 4: First-aid Measures

4.1 Description of first aid measures:

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If exposed or concerned: Get medical advice/attention.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Wash with soap and plenty of water. Obtain medical attention if irritation persists.

Ingestion: If swallowed, call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed:

Inhalation: If airborne mists are generated, product may cause respiratory tract irritation. Symptoms include irritation to the mouth, nose, throat and eyes, chest pain, cough and/or difficulty breathing.

Eye Contact: Liquid and spray mist cause severe eye irritation and possibly permanent eye damage.

Skin Contact: Liquid may cause skin irritation. Prolonged contact with the skin may cause severe irritation and possibly chemical burns of the skin.

Ingestion: If swallowed, expected to cause severe irritation to the lips, mouth, throat and stomach with nausea, and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed:

If in eyes or if experiencing breathing difficulties, get medical advice immediately.

Section 5: Fire-fighting Measures

5.1 Extinguishing media:

Use extinguishing agents appropriate for the surrounding fire conditions.

5.2 Special hazards arising from the substance:

Can vigorously decompose under high temperature conditions >110°C (>230°F) to release carbon dioxide gas. Small quantities of carbon dioxide will be released under normal storage conditions. If material is exposed to prolonged heat in a fire, oxides of carbon, nitrogen and sulfur may be formed.

Do not allow water to enter container because of violent reaction. Container explosion may occur under fire conditions or when heated. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Responders should consider the need for evacuation based on concentrations of emitted decomposition products. Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminum, tin, lead and zinc.

5.3 Advice for firefighters:

As for any fire, evacuate the area and fight the fire from a safe distance. Firefighters must wear full protective clothing and positive pressure self-contained breathing apparatus.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Spilled liquid may be a slipping hazard.

Wear eye/face protection. Wear gloves. Wash exposed skin after clean-up.

6.2 Environmental precautions:

Do not allow product to reach natural waterways or ground water. Fertilizer products may be harmful to livestock and wildlife. Clean up any spilled fertilizer products immediately, particularly where bulk quantities of fertilizers are handled.



SAFETY DATA SHEET

Section 6: Accidental Release Measures

6.3 Methods and material for containment and cleaning up:

Restrict access to the spill area. Stop the spill if it is safe to do so. Keep unnecessary and unprotected personnel from entering. Wear adequate personal protective equipment. Ventilate area.

Soak up the spilled liquid using a suitable inert absorbent (dry earth or sand). Dilute 3 to 1 with water. Spilled liquid can be neutralized by trained personnel, by slowly and carefully applying powdered limestone or sodium carbonate to spill. Allow time to neutralize. Use appropriate equipment to recover a corrosive liquid for disposal. Ensure disposal complies with government requirements and local regulations. Clean the spill area with plenty of water.

6.4 Additional Information:

See Section 8 for information on selection of personal protective equipment.

See Section 13 for information on disposal of spilled product and contaminated absorbents.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Keep out of reach of children.

Personnel handling this material should be well trained in the use of personal protective equipment, safe handling techniques, potential hazards and first aid requirements. Do not breathe fumes or mists. Avoid contact with eyes and skin. Keep away from incompatible materials. Ensure that an eyewash station and safety shower is near place of use. Do not eat, drink or smoke when using this product. Use only in a well-ventilated area.

7.2 Conditions for safe storage, including any incompatibilities:

Will corrode incompatible metals. Polyethylene, polypropylene or 316L stainless steel are acceptable materials of construction. Storage tanks should be designed to API Standard 650. Tanks should be vented and light coloured to reflect light and heat. Secondary containment is recommended and may be required in some jurisdictions.

Section 8: Exposure Controls / Personal Protection

8.1 Control parameters:

Occupational Exposure Limits:

Consult local authorities for acceptable exposure limits.

<u>Component</u>	<u>ACGIH TLV</u> (8-hr. TWA)_(mg/m ³)	<u>U.S. OSHA PEL</u> (8-hr. TWA) (mg/m ³)
Urea sulfate	Not established	Not established
Manufacturer's recommended exposure limits: 1 mg/m ³ TWA / 3 mg/m ³ STEL		

8.2 Exposure controls:

Engineering Controls:

Provide adequate ventilation to control exposure. Respiratory protective equipment (RPE) may be required in addition to engineering controls in workplaces where airborne mists are generated.

Personal Protection: Workers must comply with the Personal Protective Equipment requirements of the workplace in which this product is handled.

Eye/Face Protection: Wear safety glasses or chemical splash goggles. Where splashing is possible wear a face-shield.

Skin Protection: Wear water-impermeable gloves. Wear body-covering protective clothing and protective boots. Take off contaminated clothing and wash it before reuse.

Respiratory Protection: If ventilation and other engineering controls and work practices are not effective in controlling exposure to irritating mists/aerosols of this material, then wear suitable personal protective equipment including approved respiratory protective equipment (RPE). In workplaces where respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. Consult with respirator manufacturer to determine respirator selection, use and limitations.

Other Protection: In workplaces where this product is handled in bulk quantities, have a safety shower and eyewash fountain readily available in the work area.



SAFETY DATA SHEET

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid, clear pink or blue.
Odour:	Odourless
Odour threshold:	Not applicable
pH:	Acidic
Melting point/freezing point:	5°C
Initial boiling point and boiling range:	Decomposes @ 110°C
Flash point:	Not applicable
Flammability	Non-flammable
Auto-ignition temperature:	Not applicable
Upper/lower flammability or explosive limits:	Not applicable
Explosive properties:	Non-explosive
Oxidising properties:	Non-oxidising
Sensitivity to mechanical impact:	Not available
Sensitivity to static discharge:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	1.52 (water = 1) Bulk density: 1 520 kg/m ³
Solubility (ies):	Completely soluble in hot and cold water
Partition coefficient (n-octanol/water):	Not available
Decomposition temperature:	Not available
Viscosity:	24% (w/w)

Section 10: Stability and Reactivity

10.1 Reactivity:

Not classified for reactivity hazards.

10.2 Chemical Stability:

Stable at normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of Hazardous Reactions:

Reactive or incompatible with hypochlorites, sulfides, alkaline materials and many metals. Toxic or flammable gases may be formed or unacceptable corrosion may result

Corrosive to copper, aluminum and zinc. Corrosive to mild steel, especially when diluted. Slightly corrosive to 304 stainless steel. Non-corrosive to fiberglass, CPVC, polyethylene, polypropylene or 316L stainless steel. Consult a metallurgical specialist to ensure compatibility with handling equipment.

Reacts vigorously with water, especially when water is added to the product. Care must be taken to prevent excessive heating or spatter.

Do not allow water to enter container because of violent reaction. Container explosion may occur under fire conditions or when heated.

Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminum, tin, lead and zinc.

10.4 Conditions to Avoid:

Avoid high temperatures.

10.5 Incompatible Materials:

Incompatible with strong acids; reaction may be vigorous and generate heat. May be corrosive to aluminum.

Use caution when mixing this product with other agricultural chemicals. Some chemicals may be incompatible.

Contact Omex Agriculture Inc. for further information.

10.6 Hazardous Decomposition Products:

When heated above 110°C, will decompose to produce carbon dioxide.



SAFETY DATA SHEET

Section 11: Toxicological Information

11.1 Information on toxicological effects:

Acute Health Effects:

Inhalation: Data are not available. Based on pH of this material, breathing airborne mists/aerosols may cause respiratory tract irritation.

Ingestion: Swallowing may cause irritation to mouth, throat, esophagus and stomach. Urea sulfate readily degrades to urea and sulfuric acid or sulfate ions in the body.

Skin: Data are not available. Based on information for Urea sulfate, the product is expected to be moderately irritating to skin.

Eye: Data are not available. Based on information for Urea sulfate, the product is expected to cause serious eye damage.

Acute Toxicity Data: Acute oral, dermal and inhalation toxicity data are not available for this mixture. Toxicity data for the primary component substances are listed below:

<u>Component</u>	<u>LD₅₀ Oral</u> <u>(mg/kg)</u>	<u>LD₅₀ Dermal</u> <u>(mg/kg)</u>	<u>LC₅₀ Inhalation</u> <u>(mg/L, 4 hrs.)</u>
Urea sulfate	>2 000 (rat) OECD 423	>2 000 (rat) OECD 402	Not available

Chronic Health Effects:

Data are not available. Chronic exposure by inhalation may cause scarring of the lungs. Prolonged or repeated overexposures by inhalation, skin or eye contact may result in severe irritation and corrosive effects.

Sensitization:

Data are not available.

Neurological Effects:

Data are not available.

Genetic Effects:

Data are not available.

Reproductive Effects:

Data are not available.

Developmental Effects:

Data are not available.

Target Organ Effects:

Data are not available.

Carcinogenicity:

This product does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists, OSHA or NTP (National Toxicology Program).

Medical Conditions Aggravated by Exposure:

Data are not available.

Interactions With Other Chemicals:

Data are not available.



SAFETY DATA SHEET

Section 12: Ecological Information

12.1 Toxicity:

Acidic pH of this product may have an adverse effect on aquatic life. Prevent release of this product to natural waters. May be harmful to fish, livestock and wildlife.
Aquatic/Marine Toxicity: A toxic hazard to fish. Avoid spills or release to watercourses.
U.S. D.O.T.: This material is not listed as a marine pollutant.
Urea sulfate readily degrades to urea and sulfuric acid or sulfate ions in the environment.

12.2 Persistence and degradability:

Readily biodegradable

12.3 Bioaccumulative potential:

Non-cumulative when applied using normal agricultural practices.

12.4 Mobility in soil:

Highly soluble. Will disperse with current. Release to watercourses may cause effects downstream from the point of release.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Discard the empty container in household garbage. Follow municipal, provincial and federal laws and regulations, for proper disposal of fertilizer, where they apply.

Do not contaminate water when disposing of rinsate or equipment washwaters. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

Section 14: Transport Information

Transport Regulations:

Canadian Transportation of Dangerous Goods (TDG): Not available

USA DOT: Not regulated by DOT if transported by motor vehicle or railcar in packaging that will not react dangerously or be degraded by this material, 49 CFR 173.154 (D). Contact Omex Agriculture Inc. for further information.

IMO Classification: Not available

ICAO/IATA Classification: Not available

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*.

WHMIS Classification:

D2B : Material causing other toxic effects - Eye damage.

DSL Status:

All component substances listed on the DSL (Domestic Substances List).

USA

OSHA: Hazardous Chemical according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (2012). See Section 2 for GHS hazard classifications.



SAFETY DATA SHEET

Section 16: Other Information

Revision date: June 4, 2013

References and sources for data:

CCOHS – ChemInfo
Supplier MSDS – Urea sulfate
US, EPA: Tolerance Reassessment Eligibility Decision for Urea Sulfate. June 2005

Legend to abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists
GHS- Globally Harmonised System for Classification and Labeling
IARC – International Agency for Research on Cancer
LD50- Median lethal dose; the dose causing 50 % lethality
LEV- Local exhaust ventilation
OSHA – United States, Occupational Safety and Health Administration
STEL – Short term exposure limit
TWA – Time weighted average
TLV - Threshold Limit Value
NTP – National Toxicology Program
WHMIS – Canada, Workplace Hazardous Materials Information System

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