1. Identification

Product identifier: MegAleX

Other means of identification

Product code: 32066

Recommended use: Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label.

Recommended restrictions: Refer to product label.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufactured for: Innovation Hammer, L.L.C
dba Brandt iHammer

Address: 479 Village Park Drive
Powell, OH 43065
United States

Telephone: 614-885-4769

Website: www.BrandtiHammer.co

Manufactured by: Brandt Consolidated, Inc.

Address: 2935 South Koke Mill Road
Springfield, IL 62711
United States

Telephone: 1-217-547-5840

Website: www.brandt.co

Email: msds@brandt.co

Contact Person: EH&S/Regulatory Department

Emergency: CHEMTREC (24 Hours):

US, Canada, Puerto Rico
1 (800) 424-3900

Virgin Islands
1 (800) 424-3900

International
+1 (703) 527-3887

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Not classified.

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements

Hazard symbol: None.

Signal word: None.

Hazard statement: The mixture does not meet the criteria for classification.

Precautionary statement

Prevention: Observe good industrial hygiene practices.

Response: Wash hands after handling.
Storage
Store away from incompatible materials.

Disposal
Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td></td>
<td>57-13-6</td>
<td>5 - &lt; 10*</td>
</tr>
<tr>
<td>EDTA manganese dipotassium</td>
<td></td>
<td>68015-77-0</td>
<td>&lt; 0.3*</td>
</tr>
<tr>
<td>Ammonium Hydroxide</td>
<td></td>
<td>1336-21-6</td>
<td>0.0006</td>
</tr>
</tbody>
</table>

Other components below reportable levels 90 - 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
Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

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

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions
Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage

Avoid prolonged exposure. Observe good industrial hygiene practices.

Precautions for safe handling

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

Conditions for safe storage, including any incompatibilities

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Hydroxide (CAS 1336-21-6)</td>
<td>PEL</td>
<td>35 mg/m³</td>
</tr>
<tr>
<td>EDTA manganese dipotassium (CAS 68015-77-0)</td>
<td>Ceiling</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>35 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>27 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>35 ppm</td>
</tr>
<tr>
<td>EDTA manganese dipotassium (CAS 68015-77-0)</td>
<td>STEL</td>
<td>3 mg/m³ Fume.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 mg/m³ Fume.</td>
</tr>
</tbody>
</table>

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (CAS 57-13-6)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Total particulate.</td>
</tr>
</tbody>
</table>

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 appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protection not required.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Amber to Red
Odor: faint sweet odor
Odor threshold: Not available.

\textbf{pH:} 6 - 8

\textbf{Melting point/freezing point:} < 32 °F (< 0 °C) estimated

\textbf{Initial boiling point and boiling range:} Not available.

\textbf{Flash point:} Not available.

\textbf{Evaporation rate:} Not available.

\textbf{Flammability (solid, gas):} Not available.

\textbf{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.

\textbf{Vapor pressure:} 0.00001 hPa estimated

\textbf{Vapor density:} Not available.

\textbf{Relative density:} 1.05 g/cm³ (typical)

\textbf{Solubility(ies):}
- Solubility (water): 100 %
- Partition coefficient (n-octanol/water): Not available.

\textbf{Auto-ignition temperature:} Not available.

\textbf{Decomposition temperature:} Not available.

\textbf{Viscosity:} Not available.

\textbf{Other information:}
- Percent volatile: 81.29 % estimated
- pH in aqueous solution: 6 - 8 (1% solution)
- Pounds per gallon: 8.8 lb/gal (typical)
- Shelf life: > 2 years (when stored properly)
- VOC: 3.3 % estimated

\section*{10. Stability and reactivity}

\textbf{Reactivity:} The product is stable and non-reactive under normal conditions of use, storage and transport.

\textbf{Chemical stability:} Material is stable under normal conditions.

\textbf{Possibility of hazardous reactions:} No dangerous reaction known under conditions of normal use.

\textbf{Conditions to avoid:} Contact with incompatible materials.

\textbf{Incompatible materials:} Strong oxidizing agents.

\textbf{Hazardous decomposition products:} No hazardous decomposition products are known.

\section*{11. Toxicological information}

\textbf{Information on likely routes of exposure:}
- \textbf{Inhalation:} Prolonged inhalation may be harmful.
- \textbf{Skin contact:} No adverse effects due to skin contact are expected.
- \textbf{Eye contact:} Direct contact with eyes may cause temporary irritation.
- \textbf{Ingestion:} Expected to be a low ingestion hazard.
- \textbf{Symptoms related to the physical, chemical and toxicological characteristics:} Direct contact with eyes may cause temporary irritation.
Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ammonium Hydroxide (CAS 1336-21-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>350 mg/kg</td>
</tr>
<tr>
<td><strong>Urea (CAS 57-13-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>8471 mg/kg</td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
<td>28500 mg/kg</td>
</tr>
</tbody>
</table>

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

Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation
Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

- **Respiratory sensitization**
  - Not available.

- **Skin sensitization**
  - This product is not expected to cause skin sensitization.

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

- **Specific target organ toxicity - single exposure**
  - Not classified.

- **Specific target organ toxicity - repeated exposure**
  - Not classified.

Aspiration hazard
Prolonged inhalation may be harmful.

Chronic effects
This product is not expected to cause chronic effects.

12. Ecological information

Ecotoxicity
The product is 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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ammonium Hydroxide (CAS 1336-21-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75977.2734 mg/l, 48 hours estimated</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Urea (CAS 57-13-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Western mosquitofish (Gambusia affinis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Crustacea</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC50</td>
<td>Water flea (Daphnia magna)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3910 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Carp (Leuciscus idus melanotus)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 10000 mg/l, 48 hours</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Guppy (Poecilia reticulata)</td>
<td>16200 - 18300 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td>Harlequinfish, red rasbora (Rasbora heteromorpha)</td>
<td>12000 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td>Mozambique tilapia (Tilapia mossambica)</td>
<td>590 - 730 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

* 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)**
- Urea: -2.11

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**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. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**DOT** Not regulated as dangerous goods.

**IATA** Not regulated as dangerous goods.

**IMDG** Not regulated as dangerous goods.

### 15. Regulatory information

**US federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)** Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**
- Ammonium Hydroxide (CAS 1336-21-6) Listed.
- EDTA manganese dipotassium (CAS 68015-77-0) Listed.

**SARA 304 Emergency release notification** Not regulated.


**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** Not listed.

**SARA 311/312 Hazardous chemical** No
SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
EDTA manganese dipotassium (CAS 68015-77-0)
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
Ammonium Hydroxide (CAS 1336-21-6)
US. New Jersey Worker and Community Right-to-Know Act
Ammonium Hydroxide (CAS 1336-21-6)
EDTA manganese dipotassium (CAS 68015-77-0)
US. Pennsylvania Worker and Community Right-to-Know Law
Ammonium Hydroxide (CAS 1336-21-6)
US. Rhode Island RTK
Ammonium Hydroxide (CAS 1336-21-6)
EDTA manganese dipotassium (CAS 68015-77-0)
US. California Proposition 65
WARNING: This product can expose you to chemicals including arsenic, cadmium, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

International Inventories

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date 01-12-2015
Revision date 11-16-2017
Version # 05
Disclaimer

The information provided in this Safety Data Sheet is correct to the best of Manufacturer’s knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user’s particular use.

Revision information

Regulatory information: California Prop 65