



| HMIS            |   |
|-----------------|---|
| HEALTH          | 2 |
| FLAMMABILITY    | 0 |
| PHYSICAL HAZARD | 0 |
| PPE             | B |

### SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

|                                 |   |
|---------------------------------|---|
| <b>PRODUCT IDENTIFIER:</b> Zap® | <b>Product#</b> 345                                       |
| <b>GENERAL USE:</b>             | Used as a part of a plant nutrition program.              |
| <b>PRODUCT DESCRIPTION:</b>     | A hazy, brown liquid having a unique characteristic odor. |
| <b>SUPPLIER INFORMATION:</b>    | Huma, Inc.<br>1331 W Houston Avenue<br>Gilbert, AZ 85233  |
| <b>For Additional SDS call:</b> | <b>PHONE: (480) 961-1220</b>                              |

#### EMERGENCY PHONE NUMBERS

**CHEMTREC:** (In the USA) 800-424-9300  
(International) 703-527-3887

### SECTION 2: HAZARDS IDENTIFICATION

#### HAZARDS OVERVIEW:

A hazy, brown, liquid having a unique characteristic odor. The liquid and mists may be irritating to the eyes and skin. Inhalation of mists may be irritating to the entire respiratory tract. Ingestion of this product may cause gastrointestinal irritation, cardiovascular and central nervous system effects.

**CLASSIFICATION:** MILD SKIN IRRITATION – HAZARD CATEGORY 3

**SIGNAL WORD:** WARNING

**HAZARD STATEMENT:** H316 - WARNING - causes mild skin irritation.

**PRECAUTIONARY STATEMENT:** P332+P317—If skin irritation occurs, get emergency medical help.

**CLASSIFICATION:** HAZARD CATEGORY 5 - MAY BE HARMFUL IF SWALLOWED

**SIGNAL WORD:** WARNING

**HAZARD STATEMENT:** H303 - WARNING – may be harmful if swallowed.

**PRECAUTIONARY STATEMENT:** P301+P317—If swallowed, get emergency medical help.

### SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

| COMPONENT            | CAS #     | OSHA HAZARD  | WT %   | ACGIH                |      | OSHA                 |      |
|----------------------|-----------|--|--------|----------------------|------|----------------------|------|
|                      |           |  |        | TLV <sub>(TWA)</sub> | STEL | PEL <sub>(TWA)</sub> | STEL |
| Ammonium Nitrate     | 6484-52-2 | Oxidizer; Eye, Skin & Respiratory Irritant; Blood toxin  | 10 ± 2 | None                 | None | None                 | None |
| Urea                 | 57-13-6   | Eye Irritant; Slight to Moderate Skin & Respiratory Irritant; Slightly Toxic by Chronic Dermal Contact & Inhalation, with Cardiovascular & Central Nervous System effects. | 10 ± 2 | None                 | None | None                 | None |
| Diammonium Phosphate | 7783-28-0 | Eye Irritant; Slight to Moderate Skin & Respiratory Irritant; Slightly Toxic by Ingestion: Central Nervous System toxin  | 7 ± 1  | None                 | None | None                 | None |
| Ammonium Sulfate     | 7783-20-2 | Eye, Skin & Respiratory Irritant; Human Central Nervous System Effects by Ingestion  | 6 ± 1  | None                 | None | None                 | None |

NDA = No Data Available

N/A = Not Applicable

## SECTION 4: FIRST AID MEASURES

|                            |  |
|----------------------------|--|
| <b>INHALATION:</b>         | If inhaled, immediately move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.   |
| <b>EYE CONTACT:</b>        | In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention if irritation persists.  |
| <b>SKIN CONTACT:</b>       | In case of contact, flush skin with plenty of clean running water. Remove contaminated clothing and shoes and wash before reuse. If irritation occurs and persists, get medical attention.   |
| <b>INGESTION:</b>          | If large quantities of this product are swallowed, call a physician immediately. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  |
| <b>NOTE TO PHYSICIANS:</b> | Based on component information, this product is slightly toxic by ingestion. If a large amount is ingested, consideration should be given to careful endoscopy as stomach or esophageal irritation may occur, with possible central nervous system effects following absorption into the blood stream. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically. |

## SECTION 5: FIRE FIGHTING MEASURES

**Flashpoint and Method:** This product does not flash.

**Flammable Limits (in air, % by volume)**      **Lower:** Not applicable      **Upper:** Not applicable

**Autoignition Temperature:** Not Determined

**GENERAL HAZARD:** This product is an aqueous, very slightly acidic solution of organic and inorganic compounds with small amounts of mineral salts. The Uniform Fire Code health hazard classification for this product is: **Irritant**. It may produce hazardous decomposition products.

**FIRE FIGHTING INSTRUCTIONS:**      **EXTINGUISHING MEDIA:** Water, foam, CO<sub>2</sub> or dry chemicals.  
Use a water spray or fog to cool the containers exposed to the heat of a fire.

**FIRE FIGHTING EQUIPMENT:** Fire fighters should wear full protective equipment, including self-contained breathing apparatus.

**HAZARDOUS COMBUSTION PRODUCTS:** When heated to dryness and decomposition, it emits toxic Ammonia gas, chloride compounds, carbon monoxide, carbon dioxide, phosphorus oxides, sulfur oxides and nitrogen oxides with trace or ultra-trace toxic oxide amounts, of, iron, manganese, magnesium, potassium, calcium, zinc, cobalt, boron and sodium plus irritating smoke.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**RELEASE TO LAND:** Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of the liquid using pumps or vacuum truck for disposal in accordance with Federal, State and local regulations. Absorb the remaining liquid using sand, or commercially absorbent material; dispose as Federal, State and local requirements dictate. Flush the spill area with water; collect the rinsates for disposal as the regulations require.

Note: This product contains Ammonium Nitrate, an oxidizing fertilizer. Do not allow this concentrated product to dry in contact with combustible organic materials or reducing agents as a reaction may occur, releasing heat and possibly toxic gasses.

**RELEASE TO WATER:** Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

## SECTION 7: HANDLING AND STORAGE

**STORAGE TEMPERATURE:** Ambient

**STORAGE PRESSURE:** Ambient

**GENERAL:** Store in a cool, dry, well-ventilated area away from incompatible materials and products. Do not get this product in eyes, on skin or on clothing. Wear recommended personnel protective equipment when handling this product. Do not breathe mists, vapors, fumes or aerosols. Use only with adequate ventilation. Do not take internally. Keep the container tightly closed when not in use. Wash thoroughly after handling this product.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**CONTROL MEASURES:** Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the OSHA-PEL, ACGIH-TLV or levels that may cause irritation.

### RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

**RESPIRATOR:** Respiratory protection is not normally required. If use produces mists that may cause irritation, a NIOSH approved half mask or full facepiece respirator equipped with a good mist / particulate cartridge or supplied air is recommended. **Note:** Always consult the respirator manufacturer's data when determining the suitability of respiratory protective devices prior to use.

**EYES:** Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn. **Note:** Always consult the protective eyewear manufacturer's data when determining the suitability of protective eyewear prior to use.

**GLOVES:** Wear Neoprene, Nitrile, Butyl Rubber, or Natural Rubber gloves. **Note:** Always consult the glove manufacturer's permeation data when determining the suitability of gloves prior to use.

**CLOTHING & EQUIPMENT:** If contact is likely, wear a Neoprene, Nitrile, Butyl Rubber, or Natural Rubber apron when handling this product. An eye wash station and safety shower should be available in the work area. **Note:** Always consult the clothing/equipment manufacturer's permeation data when determining the suitability of clothing/equipment prior to use.

**FOOTWEAR:** Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber boots. **Note:** Always consult the footwear manufacturer's permeation data when determining the suitability of footwear prior to use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

|                                 |                                |  |                   |
|---------------------------------|--------------------------------|--|-------------------|
| <b>Appearance:</b>              | Hazy, brown                    | <b>Bulk Density (pounds/ft<sup>3</sup>):</b> | Not applicable    |
| <b>Physical State:</b>          | Liquid                         | <b>Vapor Pressure:</b>                       | No data available |
| <b>Odor:</b>                    | Unique, characteristic         | <b>Vapor Density (air=1):</b>                | No data available |
| <b>Odor Threshold:</b>          | No data available              | <b>Evaporation Rate (n-Butyl Acetate=1):</b> | Less than 1       |
| <b>Molecular Formula:</b>       | Mixture                        | <b>VOC Content / Organic Matter:</b>         | Nil / 8.5%        |
| <b>Molecular Weight:</b>        | Not applicable                 | <b>% Volatile:</b>                           | No data available |
| <b>Boiling Point:</b>           | Greater than 100° C. (212° F.) | <b>Solubility in H<sub>2</sub>O:</b>         | Soluble           |
| <b>Freezing/Melting Point:</b>  | Less than 0° C. (32° F.)       | <b>Octanol/Water Partition Coefficient:</b>  | No data available |
| <b>Specific Gravity:</b>        | 1.19 @ 20° C.                  | <b>pH (as is):</b>                           | 4.0 - 5.0         |
| <b>Density (pounds/gallon):</b> | Approximately 9.93             | <b>pH (1% solution):</b>                     | No data available |

## SECTION 10: STABILITY AND REACTIVITY

**GENERAL:** This product is stable and hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Do not store this product below 50° F (10° C) or above 90° F (30° C)

**INCOMPATIBLE MATERIAL:** Oxidizers, reducing agents, caustics and strong alkali.

**HAZARDOUS DECOMPOSITION PRODUCTS:** When heated to dryness and decomposition, it emits toxic Ammonia gas with toxic oxides of carbon, phosphorus, nitrogen, sulfur and potassium with trace or ultra-trace toxic oxide amounts, of, iron, manganese, magnesium, calcium, zinc, copper and sodium plus irritating smoke.

**SENSITIVITY TO MECHANICAL IMPACT:** This product is not sensitive to mechanical impact.

**SENSITIVITY TO STATIC DISCHARGE:** This product is not sensitive to static discharge.

## SECTION 11: TOXICOLOGICAL INFORMATION

|   |   |  |
|---|---|--|
| <b>Components:</b>                                | <u><b>Ammonium Nitrate</b></u>              | <u><b>Urea</b></u>   |
| <b>Eye Contact:</b>                               | No data available                           | No data available  |
| <b>Skin Contact:</b>                              | No data available                           | No data available  |
| <b>Oral Rat LD<sub>50</sub>:</b>                  | 2,217 mg/kg                                 | 8,471 mg/kg  |
| <b>Dermal Rabbit LD<sub>50</sub>:</b>             | No data available                           | No data available (Rabbit, Subcutaneous LD <sub>50</sub> : 3 gm/kg)  |
| <b>Inhalation Rat LC<sub>50</sub>:</b>            | No data available                           | No data available (Rat, Inhalation, Chronic – Multiple Dose, 288 mg/m <sup>3</sup> /17 weeks; Toxic effects: Kidney, Ureter & Bladder – Other changes in urine composition; Blood – Other changes; Nutritional and gross metabolic changes.) |
| <b>Human Data:</b>                                | No data available                           | Dermal Human Standard Draize Test: 22 mg/3 days; Mild  |
| <b>Other Toxicological Data:</b>                  | No data available                           | Rat, Dermal, Chronic – Multiple Dose, 3,024 mg/kg/4 weeks; Toxic effects: Liver – Changes in Liver weight; Endocrine – Changes in Thymus weight; Death.  |
| <b>Carcinogenicity:</b>                           | No data available                           | Oral Rat TD <sub>Lo</sub> : 821 gm/kg/1 year; Tumorigenic – Neoplastic by RTECS criteria; Blood – Tumors; Blood – Lymphomax including Hodgkin's disease.   |
| <b>Teratogenicity:</b>                            | No data available                           | Intraplacental Woman TD <sub>Lo</sub> : 1,400 mg/kg (female 16 Weeks pregnant); Effects on Fertility - Abortion  |
| <b>Mutagenicity:</b>                              | No data available                           | Human DNA Inhibition; lymphocyte: 600 mmol/Liter   |
| <b>Synergistic Products:</b>                      | None reported                               | None reported  |
| <b>Target Organs:</b>                             | Eyes, Skin, Mucous membranes, Lungs & Blood | Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems  |
| <b>Medical Conditions Aggravated By Exposure:</b> | Skin or Respiratory disorders               | Skin, Respiratory or Cardiac disorders   |

|   |  |  |
|---|--|--|
| <b>Components:</b>                                | <u><b>Diammonium Phosphate</b></u>         | <u><b>Ammonium Sulfate</b></u>                                     |
| <b>Eye Contact:</b>                               | No data available                          | No data available  |
| <b>Skin Contact:</b>                              | No data available                          | No data available  |
| <b>Oral Rat LD<sub>50</sub>:</b>                  | Greater than 1,000 mg/kg                   | 2,840 mg/kg  |
| <b>Dermal Rabbit LD<sub>50</sub>:</b>             | No data available                          | No data available  |
| <b>Inhalation Rat LC<sub>50</sub>:</b>            | No data available                          | No data available  |
| <b>Human Data:</b>                                | No data available                          | Oral Man TD <sub>Lo</sub> : 1,500 mg/kg (Gastrointestinal effects) |
| <b>Other Toxicological Data:</b>                  | No data available                          | Intraperitoneal Mouse LD <sub>50</sub> : 610 mg/kg                 |
| <b>Carcinogenicity:</b>                           | No data available                          | No data available  |
| <b>Teratogenicity:</b>                            | No data available                          | No data available  |
| <b>Mutagenicity:</b>                              | No data available                          | No data available  |
| <b>Synergistic Products:</b>                      | None reported                              | None reported  |
| <b>Target Organs:</b>                             | Eyes, Skin, Lungs & Central Nervous System | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System       |
| <b>Medical Conditions Aggravated By Exposure:</b> | Skin or Respiratory disorders              | Skin or Respiratory disorders                                      |

## SECTION 12: ECOLOGICAL INFORMATION

### ENVIRONMENTAL FATE:

This product is soluble in water and is not expected to affect the pH of water. No specific environmental fate data is available.

### ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product has not been determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**RCRA 40 CFR 261 CLASSIFICATION:** Non-RCRA Hazardous Waste (United States)

**U.S. EPA WASTE NUMBER/DESCRIPTION:** Not Applicable

If this product is disposed of as shipped, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of a hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D due to toxicity. As a non-RCRA hazardous liquid waste, it should be disposed of in accordance with all local, state, and federal regulations. Consult state or local officials for proper disposal method.

## SECTION 14: TRANSPORTATION INFORMATION

**DOT PROPER SHIPPING NAME:** Not DOT Regulated

**Hazard Class:** Not applicable      **UN Number:** N/A      **Packing Group:** N/A  
**Primary Label:** None Required      **Subsidiary Label(s):** None Required  
**Primary/Subsidiary Placards:** None Required

**DOT Reportable Quantity (RQ):** Not listed      **RQ for Product:** Not applicable

**Marine Pollutant:** No

**2012 North American Emergency Response Guidebook No.:** Not applicable

**TDG PROPER SHIPPING NAME:** NOT RESTRICTED

**Hazard Class:** Not applicable      **UN Number:** N/A      **Packing Group:** N/A  
**Primary Label:** None Required      **Subsidiary Label(s):** None Required  
**Primary/Subsidiary Placards:** None Required

**TDG Reportable Quantity (RQ): \*** Not applicable

**TDG Schedule XII:** Not applicable

**Regulated Limit (RL): \*\*** Not listed      **RL for Product:** Not applicable

**Other Shipping Information:** None

\* Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table I, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). \*\* Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.

## SECTION 15: REGULATORY INFORMATION

| COMPONENTS:                           | <u>Ammonium Nitrate</u>                     | <u>Urea</u>   | <u>Diammonium Phosphate</u>                | <u>Ammonium Sulfate</u>                                      |
|---------------------------------------|---|---|--|--|
| <b><u>OSHA Target Organs:</u></b>     | Eyes, Skin, Mucous membranes, Lungs & Blood | Eyes, Skin, Mucous membranes, Lungs, Cardiovascular & Central Nervous Systems | Eyes, Skin, Lungs & Central Nervous System | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System |
| <b><u>Carcinogenic Potential:</u></b> |   |   |  |  |
| <b>Regulated by OSHA:</b>             | No  | No  | No   | No   |
| <b>Listed on NTP Report:</b>          | No  | No  | No   | No   |
| <b>Listed by IARC:</b>                | No  | No  | No   | No   |
| IARC Group:                           | Not applicable                              | Not applicable  | Not applicable                             | Not applicable   |
| <b>ACGIH Appendix A:</b>              | Not listed                                  | Not listed  | Not listed                                 | Not listed   |
| A1 Confirmed Human:                   | Not applicable                              | Not applicable  | Not applicable                             | Not applicable   |
| A2 Suspected Human:                   | Not applicable                              | Not applicable  | Not applicable                             | Not applicable   |

### U.S. EPA Requirements

#### Release Reporting

##### CERCLA (40 CFR 302)

|                            |                |                |                |                |
|----------------------------|----------------|----------------|----------------|----------------|
| <b>Listed Substance:</b>   | Not listed     | Not listed     | Not listed     | Not listed     |
| Reportable Quantity:       | Not applicable | Not applicable | Not applicable | Not applicable |
| Category:                  | Not applicable | Not applicable | Not applicable | Not applicable |
| RCRA Waste No.:            | Not applicable | Not applicable | Not applicable | Not applicable |
| <b>Unlisted Substance:</b> | Not applicable | Not applicable | Not applicable | Not applicable |
| Reportable Quantity:       | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristic:            | Not applicable | Not applicable | Not applicable | Not applicable |
| RCRA Waste No.:            | Not applicable | Not applicable | Not applicable | Not applicable |

## SECTION 15: REGULATORY INFORMATION (Continued from Page 5)

| COMPONENTS:                                | <u>Ammonium Nitrate</u> | <u>Urea</u>    | <u>Diammonium Phosphate</u> | <u>Ammonium Sulfate</u> |
|--|-------------------------|----------------|-----------------------------|-------------------------|
| <b>SARA TITLE III</b>                      |                         |                |                             |                         |
| <b>Section 302 &amp; 303 (40 CFR 355):</b> |                         |                |                             |                         |
| <b>Listed Substance:</b>                   | Not listed              | Not listed     | Not listed                  | Not listed              |
| Reportable Quantity:                       | Not applicable          | Not applicable | Not applicable              | Not applicable          |
| Planning Threshold:                        | Not applicable          | Not applicable | Not applicable              | Not applicable          |

**Section 311 & 312 (40 CFR 370):**

|                              |                |                                      |                    |                        |                          |
|------------------------------|----------------|--------------------------------------|--------------------|------------------------|--------------------------|
| Hazard Categories (product): | <b>Fire: N</b> | <b>Sudden Release of Pressure: N</b> | <b>Reactive: N</b> | <b>Acute Health: Y</b> | <b>Chronic Health: N</b> |
| Planning threshold:          | 10,000 pounds  | 10,000 pounds                        | 10,000 pounds      | 10,000 pounds          | 10,000 pounds            |

**Section 313 (40 CFR 372):**

|                               |  |                |                    |                    |
|-------------------------------|--|----------------|--------------------|--------------------|
| <b>Listed Toxic Chemical:</b> | Yes (Aqua Ammonia & Nitrate compounds) | Not listed     | Yes (Aqua Ammonia) | Yes (Aqua Ammonia) |
| Reporting Threshold:          | 10,000 pounds                          | Not applicable | 10,000 pounds      | 10,000 pounds      |

### U.S. TSCA Status

|                             |     |     |     |     |
|-----------------------------|-----|-----|-----|-----|
| <b>Listed (40 CFR 710):</b> | Yes | Yes | Yes | Yes |
|-----------------------------|-----|-----|-----|-----|

### State Regulations

**State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):**

|                     |    |    |    |    |
|---------------------|----|----|----|----|
| Carcinogen:         | No | No | No | No |
| Reproductive Toxin: | No | No | No | No |

### Other Regulations

|                                  |    |
|----------------------------------|----|
| <b>State Right To Know Laws:</b> | NJ |
|----------------------------------|----|

### Canadian Regulations

**Product Information:**

|                         |   |
|-------------------------|---|
| Controlled Product:     | <b>Yes</b>                                  |
| WHMIS Hazard Symbols:   | <b>Material Causing Other Toxic Effects</b> |
| WHMIS Class & Division: | <b>D.2B</b>                                 |

**Ingredient Information:**

|                    |     |     |     |     |
|--------------------|-----|-----|-----|-----|
| IDL Substance:     | No  | No  | No  | No  |
| DSL or NDSL Lists: | DSL | DSL | DSL | DSL |

## SECTION 16: OTHER INFORMATION

**EPA Registration number:** Not applicable

**Approved Product Uses:** Used as part of a plant nutrition program.

**Special Notes:**

This product is not manufactured, or formulated, to contain substances, which the State of California has found to cause cancer and/or birth defects or other reproductive harm. However, as it contains mined minerals, this product may contain trace (parts per million) or ultra-trace (parts per billion) of elements known to the State of California to cause cancer, birth defects or other reproductive harm.

**Special Instructions:** Store Zap® in a cool, dry, well ventilated, area away from incompatible materials and products. When making dilutions, always add this product to water, or aqueous solutions, with adequate mixing to ensure a uniform solution. Do not add strong alkali or caustics to this product, as that will liberate toxic, corrosive Ammonia gas.

**SDS Revision Information:** Revised Date: 8/15/2023

**MSDS Distributed by:** Huma, Inc.

|                                    |  |
|------------------------------------|--|
| <b>Prepared By:</b> Anna Carpenter | <b>Date Prepared:</b> October 21, 2014 |
|------------------------------------|--|

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