

# SAFETY DATA SHEET

Revision Date: 15-May-2019

## 1. Identification

### Product identifier

**Product Name** Amino-Che™ Zinc

### Other means of identification

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** Agricultural Micronutrient Product. See product label for use information.

**Restrictions on use** See product label for information regarding restriction on the use of this product.

### Details of the supplier of the safety data sheet

#### Supplier Address

Winfield Solution, LLC

P.O. Box 64589

St. Paul, MN 55164-0589

Non-Emergency Business Inquiries: 1-855-494-6343 (Mon-Fri 8am-5pm CST)

### Emergency telephone number

**Emergency Telephone** FOR MEDICAL EMERGENCY: 1-877-424-7452 (24 hrs)

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL:  
CHEMTREC 1-800-424-9300 (24 hrs)

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|  |            |
|--|------------|
| Acute toxicity - Inhalation (Dusts/Mists)        | Category 4 |
| Specific target organ toxicity (single exposure) | Category 3 |

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

#### **WARNING**



#### **Hazard statements**

Harmful if inhaled

May cause respiratory irritation. May cause drowsiness or dizziness

**Precautionary Statements - Prevention**

Use only outdoors or in a well-ventilated area  
Avoid breathing mist, vapor or spray

**Precautionary Statements - Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor for treatment advice if you feel unwell.

**Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place  
Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with Federal, state and local regulations.

**Other information**

May be harmful in contact with skin  
Toxic to aquatic life with long lasting effects  
Toxic to aquatic life

**Unknown acute toxicity**

42.9 % of the mixture consists of ingredient(s) of unknown toxicity

**3. Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

| Chemical name | CAS No    | Weight-% | Trade secret |
|---------------|-----------|----------|--------------|
| Ethanolamine  | 141-43-5  | 10-30    | *            |
| Zinc oxide    | 1314-13-2 | 5-10     | *            |

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. First-aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or doctor for treatment advice if you feel unwell.

**Eye contact**

Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Call a poison control center or doctor for treatment advice if irritation persists.

**Skin contact**

Remove/Take off contaminated clothing. Rinse skin with water/shower. Call a poison control center or doctor for treatment advice if you feel unwell or if irritation occurs.

**Ingestion**

Do NOT induce vomiting unless told to do so by a medical professional. Rinse mouth. Never give anything by mouth to an unconscious person. Call a poison control center or doctor for treatment advice if you feel unwell.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Coughing and/ or wheezing. Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating gases and vapors.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Do not touch damaged packages or spilled material. Ensure adequate ventilation. Use personal protective equipment as required.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid breathing mist, vapor or spray. Avoid contact with skin, eyes or clothing. Wear personal protective equipment. Wash contaminated clothing before reuse.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children and pets.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

| Chemical name            | ACGIH TLV  | OSHA PEL  | NIOSH IDLH   |
|--------------------------|--|---|--|
| Ethanolamine<br>141-43-5 | STEL: 6 ppm<br>TWA: 3 ppm  | TWA: 3 ppm<br>TWA: 6 mg/m <sup>3</sup><br>(vacated) TWA: 3 ppm<br>(vacated) TWA: 8 mg/m <sup>3</sup><br>(vacated) STEL: 6 ppm<br>(vacated) STEL: 15 mg/m <sup>3</sup>   | IDLH: 30 ppm<br>TWA: 3 ppm<br>TWA: 8 mg/m <sup>3</sup><br>STEL: 6 ppm<br>STEL: 15 mg/m <sup>3</sup>  |
| Zinc oxide<br>1314-13-2  | STEL: 10 mg/m <sup>3</sup> respirable particulate matter<br>TWA: 2 mg/m <sup>3</sup> respirable particulate matter | TWA: 5 mg/m <sup>3</sup> fume<br>TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) TWA: 5 mg/m <sup>3</sup> fume<br>(vacated) TWA: 10 mg/m <sup>3</sup> total dust<br>(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) STEL: 10 mg/m <sup>3</sup> fume | IDLH: 500 mg/m <sup>3</sup><br>Ceiling: 15 mg/m <sup>3</sup> dust<br>TWA: 5 mg/m <sup>3</sup> dust and fume<br>STEL: 10 mg/m <sup>3</sup> fume |

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Tight sealing safety goggles; face shield.

|                                       |  |
|---------------------------------------|--|
| <b>Hand protection</b>                | Impervious gloves.   |
| <b>Skin and body protection</b>       | Impervious clothing.   |
| <b>Respiratory protection</b>         | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| <b>General hygiene considerations</b> | Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.                                  |

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | No information available |
| <b>Color</b>          | Tan or pink              |
| <b>Odor</b>           | No information available |
| <b>Odor threshold</b> | No information available |

| <u>Property</u>                        | <u>Values</u>     |
|--|-------------------|
| <b>pH</b>                              | 8.0               |
| <b>Melting point / freezing point</b>  | No data available |
| <b>Boiling point / boiling range</b>   | No data available |
| <b>Flash point</b>                     | No data available |
| <b>Evaporation rate</b>                | No data available |
| <b>Flammability (solid, gas)</b>       | No data available |
| <b>Flammability Limit in Air</b>       |                   |
| Upper flammability or explosive limits | No data available |
| Lower flammability or explosive limits | No data available |
| <b>Vapor pressure</b>                  | No data available |
| <b>Vapor density</b>                   | No data available |
| <b>Relative density</b>                | 1.36              |
| <b>Water solubility</b>                | No data available |
| <b>Solubility(ies)</b>                 | No data available |
| <b>Partition coefficient</b>           | No data available |
| <b>Autoignition temperature</b>        | No data available |
| <b>Decomposition temperature</b>       | No data available |
| <b>Kinematic viscosity</b>             | No data available |
| <b>Dynamic viscosity</b>               | No data available |

|                             |                           |
|-----------------------------|---------------------------|
| <b>Other information</b>    |                           |
| <b>Explosive properties</b> | No information available. |
| <b>Oxidizing properties</b> | No information available. |
| <b>Softening point</b>      | No information available  |
| <b>Molecular weight</b>     | No information available  |
| <b>VOC Content (%)</b>      | No information available  |
| <b>Liquid Density</b>       | No information available  |
| <b>Bulk density</b>         | No information available  |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                         | No dangerous reaction known under conditions of normal use. |
| <b>Chemical stability</b>                 | Stable under normal conditions.                             |
| <b>Possibility of hazardous reactions</b> | None under normal processing.                               |

|   |   |
|---|---|
| <b>Hazardous polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Conditions to avoid</b>              | None known based on information supplied.   |
| <b>Incompatible materials</b>           | Strong acids. Strong bases. Strong oxidizing agents.                                |
| <b>Hazardous decomposition products</b> | Thermal decomposition can lead to release of irritating and toxic gases and vapors. |

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Harmful by inhalation. May cause irritation of respiratory tract. May cause drowsiness or dizziness. |
| <b>Eye contact</b>  | Minimally irritating (rabbit).   |
| <b>Skin contact</b> | Non-irritating (rabbit). May be harmful if absorbed through skin.                                    |
| <b>Ingestion</b>    | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.                      |

### Symptoms related to the physical, chemical and toxicological characteristics

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | May cause drowsiness or dizziness. Coughing and/or wheezing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
|-----------------|--|

### Acute toxicity

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

|                                      |                |
|--------------------------------------|----------------|
| <b>ATEmix (oral)</b>                 | 5,470.60 mg/kg |
| <b>ATEmix (dermal)</b>               | 3,140.50 mg/kg |
| <b>ATEmix (inhalation-dust/mist)</b> | 4.28 mg/l      |

|                               |   |
|-------------------------------|---|
| <b>Unknown acute toxicity</b> | 42.9 % of the mixture consists of ingredient(s) of unknown toxicity |
|-------------------------------|---|

#### Component Information

| Chemical name            | Oral LD50            | Dermal LD50                                  | Inhalation LC50 |
|--------------------------|----------------------|--|-----------------|
| Ethanolamine<br>141-43-5 | = 1720 mg/kg ( Rat ) | = 1000 mg/kg ( Rabbit ) = 1 mL/kg ( Rabbit ) | -               |
| Zinc oxide<br>1314-13-2  | > 5000 mg/kg ( Rat ) | -  | -               |

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Not anticipated to cause skin irritation.                 |
| <b>Serious eye damage/eye irritation</b> | May cause minimal irritation.                             |
| <b>Respiratory or skin sensitization</b> | None of the ingredients are known to cause sensitization. |

|                                 |  |
|---------------------------------|--|
| <b>Germ cell mutagenicity</b>   | Does not contain substances that are known or suspected to be mutagens.  |
| <b>Carcinogenicity</b>          | Contains no ingredients above reportable quantities listed as a carcinogen.                                      |
| <b>Reproductive toxicity</b>    | This product does not contain any known or suspected reproductive hazards.                                       |
| <b>STOT - single exposure</b>   | May cause respiratory irritation. May cause drowsiness or dizziness.   |
| <b>STOT - repeated exposure</b> | None of the ingredients are known to cause specific target organ effects through prolonged or repeated exposure. |
| <b>Target organ effects</b>     | Respiratory system, Central nervous system.  |
| <b>Aspiration hazard</b>        | No information available.  |
| <b>Other adverse effects</b>    | No information available.  |
| <b>Interactive effects</b>      | No information available.  |

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

| Chemical name            | Algae/aquatic plants                                 | Fish  | Toxicity to microorganisms | Crustacea                                  |
|--------------------------|--|---|----------------------------|--|
| Ethanolamine<br>141-43-5 | EC50: =15mg/L (72h, <i>Desmodesmus subspicatus</i> ) | LC50: =3684mg/L (96h, <i>Brachydanio rerio</i> )<br>LC50: =227mg/L (96h, <i>Pimephales promelas</i> )<br>LC50: 114 - 196mg/L (96h, <i>Oncorhynchus mykiss</i> )<br>LC50: >200mg/L (96h, <i>Oncorhynchus mykiss</i> )<br>LC50: 300 - 1000mg/L (96h, <i>Lepomis macrochirus</i> ) | -                          | EC50: =65mg/L (48h, <i>Daphnia magna</i> ) |

**Persistence and degradability** No information available.

**Bioaccumulation**

### Component Information

| Chemical name            | Partition coefficient |
|--------------------------|-----------------------|
| Ethanolamine<br>141-43-5 | -1.91                 |

**Other adverse effects** No information available.

## 13. Disposal considerations

### Waste treatment methods

|  |  |
|--|--|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. See product label for further information on product disposal. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers. See product label for further information on container disposal.  |

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical name           | California Hazardous Waste Status |
|-------------------------|-----------------------------------|
| Zinc oxide<br>1314-13-2 | Toxic                             |

## 14. Transport information

**DOT** Not regulated for Domestic Surface Transportation

### IATA

**UN number** UN3082  
**UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**Transport hazard class(es)** 9  
**Packing group** III  
**ERG Code** 9L  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III

### IMDG

**UN number** UN3082  
**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
**Transport hazard class(es)** 9  
**Packing group** III  
**EmS-No** F-A, S-F  
**Special Provisions** 274, 335, 969  
**Description** UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide), 9, III, Marine pollutant

## 15. Regulatory information

### International Inventories

**TSCA** All ingredients within the formulation are listed.

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Chemical name          | SARA 313 - Threshold Values % |
|------------------------|-------------------------------|
| Zinc oxide - 1314-13-2 | 1.0                           |

#### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.



**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

| Chemical name           | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Zinc oxide<br>1314-13-2 | -                           | X                      | -                         | -                          |

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations****US State Regulations**

| Chemical name            | New Jersey | Massachusetts | Pennsylvania |
|--------------------------|------------|---------------|--------------|
| Ethanolamine<br>141-43-5 | X          | X             | X            |
| Zinc oxide<br>1314-13-2  | X          | X             | X            |

**16. Other information****NFPA**

Health hazards 1

Flammability 1

Instability 0

Physical and chemical  
properties -**HMIS**

Health hazards 1

Flammability 1

Physical hazards 0

Personal protection X

Chronic Hazard Star Legend

\* = Chronic Health Hazard

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling

Maximum limit value

\*

Skin designation

**Key literature references and sources for data used to compile the SDS**

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Revision Date:** May 15, 2019

**Supersedes Document Dated:** January 14, 2019

**Sections Revised:** 2, 4, 11, 16

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. 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.

**End of Safety Data Sheet**