

**1. Identification**

<b>Product identifier</b>	<b>BRANDT Zinc Chelate Solution</b>	
<b>Other means of identification</b>		
<b>Product code</b>	26013	
<b>Recommended use</b>	Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label.	
<b>Recommended restrictions</b>	Refer to product label.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Brandt Consolidated, Inc.	
<b>Address</b>	2935 South Koke Mill Road Springfield, IL 62711 United States	
<b>Telephone</b>	Corporate Office	1-217-547-5800
<b>Website</b>	www.brandt.co	
<b>E-mail</b>	msds@brandt.co	
<b>Contact person</b>	EH&S / Regulatory Department	
<b>Emergency phone number</b>	CHEMTREC (24 hours): USA, Canada, Puerto Rico 1-800-424-9300 Virgin Islands 1-800-424-9300 International Maritime +1 (703) 527-3887	

**2. Hazard(s) identification**

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Warning	
<b>Hazard statement</b>	Causes skin irritation. Causes eye irritation. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves.	
<b>Response</b>	If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.	
<b>Storage</b>	Store away from incompatible materials.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	
<b>Supplemental information</b>	None.	

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Citric Acid, Anhydrous		77-92-9	5 - < 10*
Other components below reportable levels			90 - 100

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Prevent product from entering drains.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. 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.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

<b>Occupational exposure limits</b>	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Good general ventilation 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. Provide eyewash station and safety shower.

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

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	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

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** 7.8

**Melting point/freezing point** 307.4 °F (153 °C) estimated

**Initial boiling point and boiling range** 212 °F (100 °C) estimated

**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** 0.00001 hPa estimated

**Vapor density** Not available.

**Relative density** 1.202 g/cm<sup>3</sup> (typical)

### Solubility(ies)

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** 1850 °F (1010 °C) estimated

**Decomposition temperature** Not available.

**Viscosity** Not available.

### Other information

**Explosive properties** Not explosive.

<b>Oxidizing properties</b>	Not oxidizing.
<b>Percent volatile</b>	63.81 % estimated
<b>Pounds per gallon</b>	10.02 lb/gal (typical)

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Knowledge about health hazard is incomplete.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

### Information on toxicological effects

**Acute toxicity** Not known.

<b>Product</b>	<b>Species</b>	<b>Test Results</b>
BRANDT Zinc 3-3 Chelate Solution		

#### Acute

#### **Oral**

LD50	Rat	79460 mg/kg
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<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Citric Acid, Anhydrous (CAS 77-92-9)		

#### Acute

#### **Oral**

LD50	Rat	6730 mg/kg
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**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes eye irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** Due to partial or complete lack of data the classification is not possible.

**Skin sensitization** Due to partial or complete lack of data the classification is not possible.

**Germ cell mutagenicity** Due to partial or complete lack of data the classification is not possible.

**Carcinogenicity** Due to partial or complete lack of data the classification is not possible.

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

#### **US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity - single exposure** Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure** Due to partial or complete lack of data the classification is not possible.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

## 12. Ecological information

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

Product	Species	Test Results
BRANDT Zinc 3-3 Chelate Solution		
<b>Aquatic</b>		
Fish	LC50 Fish	77913.9531 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential** No data available.

**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. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

**Hazardous waste code** D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]  
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** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 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 a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Toxic Substances Control Act (TSCA)

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

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes  
**Classified hazard categories** Skin corrosion or irritation  
 Serious eye damage or eye irritation  
**SARA 313 (TRI reporting)**  
 Not regulated.

**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.

**US state regulations**

**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](http://www.P65Warnings.ca.gov).

**International Inventories**

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

\*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** 06-09-2020  
**Version #** 01

**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** Ecological Information: Ecotoxicity