

**(Material) Safety Data Sheet****Section 1 - Product and Company Identification**

Material Name	<ul style="list-style-type: none">• Zinc Fix
Product Description	<ul style="list-style-type: none">• Light brown liquid, odorless.
Product Use	<ul style="list-style-type: none">• Soil and foliar zinc nutrient
Manufacturer	<ul style="list-style-type: none">• Source to Source, a TAP Family Company 3233 South "I" Street Tulare, CA 93274 United States
Telephone	
General	<ul style="list-style-type: none">• 559-686-4425
General	<ul style="list-style-type: none">• 866-727-4572 - Toll Free
<u>Emergency</u>	<ul style="list-style-type: none">• 1-800-424-9300 - CHEMTREC - U.S. Canada, Puerto Rico) 24 Hrs.
Preparation Date	<ul style="list-style-type: none">• 20/April/2012
Last Revision Date	<ul style="list-style-type: none">• 20/April/2012

Section 2 - Hazards Identification**Emergency Overview****WARNING**

Causes skin irritation. Causes serious eye irritation.

Prevention	Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage/Disposal	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.



Physical Form**Color****Odor****OSHA****GHS**

- Liquid
- Light brown.
- Odorless
- Irritant
- Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2A

NFPA:**Potential Health Effects****Inhalation****Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

Skin**Acute (Immediate)**

- Causes skin irritation.

Chronic (Delayed)

- No data available.

Eye**Acute (Immediate)**

- Causes serious eye irritation.

Chronic (Delayed)

- No data available.

Ingestion**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Sulfuric acid, zinc salt (1:1), monohydrate	CAS:7446-19-7 EC Number:231-793-3	25.3638%	NDA	UN GHS: Eye Irrit. 2A, Skin Irrit. 2;	NDA

Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous. According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous.

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

Inhalation	<ul style="list-style-type: none"> • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin	<ul style="list-style-type: none"> • IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
Eye	<ul style="list-style-type: none"> • In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
Ingestion	<ul style="list-style-type: none"> • If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Get medical attention.

See Section 2 for Potential Health Effects.

Section 5 - Fire Fighting Measures

Extinguishing Media	<ul style="list-style-type: none"> • Material is non-combustible. In case of fire use media as appropriate for surrounding fire.
Unsuitable Extinguishing Media	<ul style="list-style-type: none"> • No data available.
Firefighting Procedures	<ul style="list-style-type: none"> • Stay upwind. Keep unauthorized personnel away. Keep out of low areas. Ventilate closed spaces before entering.
Unusual Fire and Explosion Hazards	<ul style="list-style-type: none"> • Material is non-combustible and is not expected to pose a fire or explosion hazard.
Hazardous Combustion Products	<ul style="list-style-type: none"> • No data available.
Protection of Firefighters	<ul style="list-style-type: none"> • Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Section 6 - Accidental Release Measures

Personal Precautions	<ul style="list-style-type: none"> • Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas. Use only thoroughly rinsed and clean equipment.
Emergency Procedures	<ul style="list-style-type: none"> • As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Stay upwind. Keep out of low areas. Keep unauthorized personnel away. Ventilate closed spaces before entering.
Environmental Precautions	<ul style="list-style-type: none"> • LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.
Containment/Clean-up Measures	<ul style="list-style-type: none"> • Stop leak if you can do it without risk. SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILLS: Dike far ahead of spill for later disposal.
Prohibited Materials	<ul style="list-style-type: none"> • No data available

Section 7 - Handling and Storage

Handling	<ul style="list-style-type: none"> • Use only with adequate ventilation. Do not breathe mist, vapours and/or spray.
Storage	<ul style="list-style-type: none"> • Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Special Packaging Materials	<ul style="list-style-type: none"> • No data available

Incompatible Materials or Ignition Sources

- No data available

Section 8 - Exposure Controls/Personal Protection**Personal Protective Equipment****Pictograms****Respiratory**

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear splash goggles.

Hands

- Wear appropriate gloves.

Skin/Body

- Wear protective clothing

Engineering Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Exposure Limits/Guidelines

	Result	ACGIH	NIOSH	OSHA
Cadmium (7440-43-9)	Ceilings	Not established	Not established	0.3 mg/m3 Ceiling (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect, fume); 0.6 mg/m3 Ceiling (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect, dust)
	TWAs	0.01 mg/m3 TWA; 0.002 mg/m3 TWA (respirable fraction)	Not established	0.1 mg/m3 TWA (fume, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 0.2 mg/m3 TWA (dust, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 5 µg/m3 TWA
Lead as Lead, inorganic compounds	TWAs	0.05 mg/m3 TWA	0.050 mg/m3 TWA	50 µg/m3 TWA

Key to abbreviations

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Light brown liquid, odorless.
Color	Light brown.	Odor	Odorless

Taste	No data available	Particulate Type	Not relevant
Particulate Size	Not relevant	Aerosol Type	Not relevant
Odor Threshold	No data available	Physical and Chemical Properties	No data available
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	Heat of Decomposition	No data available
pH	2.5	Specific Gravity/Relative Density	1.28 Water=1
Density	No data available	Bulk Density	No data available
Water Solubility	No data available	Solvent Solubility	No data available
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available	VOC (Wt.)	No data available
VOC (Vol.)	No data available	Volatiles (Wt.)	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Self-Accelerating Decomposition Temperature (SADT)	No data available	Heat of Combustion (ΔH_c)	No data available
Burning Time	No data available	Flame Duration	No data available
Flame Height	No data available	Flame Extension	No data available
Ignition Distance	No data available		
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

Section 10 - Stability and Reactivity

Stability

- Stable under normal temperatures and pressures.

Hazardous Polymerization

- Hazardous polymerization will not occur.

Conditions to Avoid

- No data available.

Incompatible Materials

- No data available.

Hazardous Decomposition Products

- No data available.

Section 11 - Toxicological Information

Other Material Information • Exposuse to this material may cause irritation to the skin and eyes.

Component Name	CAS	Data
Water (60.98%)	7732-18-5	Acute Toxicity: orl-rat LD50:>90 mL/kg; orl-rbt LDLo:368 gm/kg

Key to abbreviations

LD = Lethal Dose

Section 12 - Ecological Information

Ecological Fate • No data available
Persistence/Degradability • No data available.
Bioaccumulation Potential • No data available.
Mobility in Soil • No data available.

Section 13 - Disposal Considerations

Product • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Packaging • Triple rinse containers and application equipment.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: Not Regulated

Section 15 - Regulatory Information

SARA Hazard Classifications • Acute

State Right To Know				
Component	CAS	MA	NJ	PA
Water	7732-18-5	No	No	No
Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	No	No	No
Fulvic Acid	479-66-3	No	No	No
Citric acid	77-92-9	No	No	No
Cadmium	7440-43-9	Yes	Yes	Yes
			Yes	Yes

Lead	7439-92-1	Yes	Yes	Yes
------	-----------	-----	-----	-----

Inventory		
Component	CAS	TSCA
Water	7732-18-5	Yes
Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	No
Fulvic Acid	479-66-3	No
Citric acid	77-92-9	Yes
Cadmium	7440-43-9	Yes
Lead	7439-92-1	Yes

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Cadmium	7440-43-9	0.0025%	5 µg/m3 TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease, See 29 CFR 1910.1027); 2.5 µg/m3 Action Level
• Lead	7439-92-1	0.0025%	30 µg/m3 Action Level (Poison, See 29 CFR 1910.1025); 50 µg/m3 TWA
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Cadmium	7440-43-9	0.0025%	10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)
• Lead	7439-92-1	0.0025%	10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Cadmium	7440-43-9	0.0025%	0.1 % de minimis concentration
• Lead	7439-92-1	0.0025%	0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)

• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	100 lb RT (this lower threshold does not apply to lead when it is contained in stainless steel, brass or bronze alloy)
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Cadmium	7440-43-9	0.0025%	carcinogen, initial date 10/1/87
• Lead	7439-92-1	0.0025%	carcinogen, initial date 10/1/92
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Cadmium	7440-43-9	0.0025%	developmental toxicity, initial date 5/1/97
• Lead	7439-92-1	0.0025%	developmental toxicity, initial date 2/27/87
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Cadmium	7440-43-9	0.0025%	4.1 µg/day MADL (oral)
• Lead	7439-92-1	0.0025%	0.5 µg/day MADL
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Cadmium	7440-43-9	0.0025%	0.05 µg/day NSRL (inhalation)
• Lead	7439-92-1	0.0025%	15 µg/day NSRL (oral)
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Cadmium	7440-43-9	0.0025%	Not Listed
• Lead	7439-92-1	0.0025%	female reproductive toxicity, initial date 2/27/87
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Cadmium	7440-43-9	0.0025%	male reproductive toxicity, initial date 5/1/97
• Lead	7439-92-1	0.0025%	male reproductive toxicity, initial date 2/27/87
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Cadmium	7440-43-9	0.0025%	(including dust, fume, powder)
• Lead	7439-92-1	0.0025%	
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Cadmium	7440-43-9	0.0025%	(including powder)
• Lead	7439-92-1	0.0025%	Not Listed
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

United States - Rhode Island**Labor****U.S. - Rhode Island - Hazardous Substance List**

• Cadmium	7440-43-9	0.0025%	Toxic (dust); Carcinogen (dust)
• Lead	7439-92-1	0.0025%	Toxic (dust and fume)
• Citric acid	77-92-9	0.01%	Not Listed
• Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	25.3638%	Not Listed
• Water	7732-18-5	60.98%	Not Listed
• Fulvic Acid	479-66-3	13.39%	Not Listed

Section 16 - Other Information**Preparation Date**

- 20/April/2012

Last Revision Date

- 20/April/2012

Disclaimer/Statement of Liability

- Reasonable care has been taken in the preparation of this information, but the supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

Key to abbreviationsNDA = No Data Available
