

SAFETY DATA SHEET

Section 1: Identification

1.1 Product identifier:

Foliar Advanced Zinc

Other means of Identification: Foliar Advanced Zn with 9% Zinc

1.2 Recommended use:

Identified uses:

Fertilizer for professional agricultural uses.

Restrictions on use:

Agricultural uses only. Read the label before using. Keep out of reach of children.

1.3 Supplier:

OMEX Agriculture Inc.

290 Agri Park Road

Oak Bluff, MB, Canada

R4G 0A5

Web address: www.omexcanada.com

(204) 477-4052

1.4 Emergency telephone number (24-hour):

Poison Control Center: Call 911 or the regional Poison Control Center

Canadian Association of Poison Control Centers, provincial telephone numbers at: www.capcc.ca

Section 2: Hazard Identification

2.1 Classification:

Acute toxicity (Oral) Cat. 4; H302

Eye irritation Cat. 2A; H319

2.2 Label elements:



Warning

Harmful if swallowed.

Causes serious eye irritation.

Prevention

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves and eye protection or face protection.

Response

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Rinse mouth.

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 attention.

Disposal

Dispose of contents and container in accordance with local, regional, national and international regulations.

2.3 Other hazards:

Caution: This fertilizer contains Zinc and should be used only as recommended. It may prove harmful when misused.

Exposures to vapours or spray may cause irritation to the respiratory tract.

Very toxic to aquatic life with long lasting adverse effects in the aquatic environment.



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Section 3: Composition / Information on Ingredients

Chemical Name	CAS No.	Wt.%	GHS Classification
Zinc sulfate, monohydrate	7446-19-7	25	Acute tox. Oral 4; H302 Eye irritation 2A; H319 Aquatic acute 1/chronic 1; H410, M =10

Section 4: First-Aid Measures

4.1 Description of first-aid measures:

Inhalation: If irritation occurs move victim to fresh air and keep comfortable for breathing. Get immediate medical attention if you feel unwell or are concerned.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. If eye irritation persists, get medical attention.

Skin Contact: Rinse skin with plenty of water and mild soap. If irritation persists, get medical attention. Take off contaminated clothing and wash it before re-use.

Ingestion: If exposed or concerned, call a POISON CENTER or doctor for treatment advice. Do not induce vomiting unless advised to do so by Poison center or doctor. If vomiting occurs naturally lay person on their side in the recovery position. Rinse mouth.

Canadian Poison Control Centers telephone numbers are available at: www.capcc.ca/en/content/provincial-centres

4.2 Most important symptoms and effects, acute and delayed:

Inhalation: Breathing spray or mist may cause nose, throat and respiratory tract irritation. Symptoms may include cough and/or difficulty breathing.

Eye Contact: Contact with liquid or spray causes eye irritation. Symptoms include redness, discomfort and watering of the eyes.

Skin Contact: Not irritating to skin based on animal tests and human occupational exposures.

Ingestion: Harmful if swallowed, may cause a metallic taste in the mouth, abdominal pain and irritation to the mouth, esophagus and stomach. May cause vomiting and diarrhea. Swallowing a large dose in the acutely toxic range can cause adverse effects on the blood, kidney and liver. This may result in haemolytic anemia, kidney and liver impairment.

4.3 Indication of any immediate medical attention and special treatment needed:

Not available

4.4 Medical Conditions Aggravated by Exposure:

Not available

Section 5: Fire-fighting Measures

5.1 Extinguishing media:

Use extinguishing media appropriate for the surrounding fire (water spray, appropriate foam, dry chemical or carbon dioxide).

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the product:

Not flammable or combustible.

If involved in a fire closed containers may rupture violently; may generate toxic fumes containing toxic metal oxides.

5.3 Special protective equipment and precautions for fire-fighters:

Firefighters should wear full protective gear including self-contained breathing apparatus when fighting chemical fires.

Any water runoff should be minimized and contained.



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Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Wear protective gloves, clothing and boots. Wear eye protection or face protection.
Stop the spill if safe to do so. Restrict access to the spill area.

6.2 Environmental precautions:

Prevent releases from going into drains, sewers and other waterways.
Fertilizer products may be harmful to livestock and wildlife if swallowed. Clean up any spilled fertilizer products immediately, particularly where bulk quantities of fertilizers are handled.

6.3 Methods and material for containment and cleaning up:

Collect the spilled liquid by pumping or using a suitable inert absorbent (e.g. sand, earth or other commercial absorbent product). Collect spilled material and contaminated absorbents and place in an appropriate container for reclamation or disposal. Clean the spill area with water and collect wash water for re-use or proper disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Read the label before using.
Keep out of reach of children.
Avoid contact with skin and eyes. Wear eye protection and gloves.
Remove contaminated clothing and wash it before reuse.
Wash hands and exposed skin after handling.
Do not eat, drink or smoke when using this product.
Do not breathe gas, mist, vapours or spray.

7.2 Conditions for safe storage:

Store in the original container and provide adequate protection from weather. Protect from freezing.
Store in original containers only.
Keep storage containers closed when not in use and when empty.
Keep away from strong oxidizers (see Section 10).
Do not contaminate water, food or feed by storage or disposal.
Empty containers may retain harmful product residues; do not re-use containers for food or drink.

Section 8: Exposure Controls / Personal Protection

8.1 Control parameters:

Ingredient	ACGIH® TLV®	OSHA PEL	Other Exposure Limits
Zinc sulfate	None established	None established	Not available

8.2 Exposure controls:

Engineering controls: Mechanical ventilation or personnel enclosures may be required to control hazardous conditions when this material is heated or a spray/mist is created.

8.3 Individual protection measures:

Eye/Face protection: Wear safety glasses or chemical safety goggles. Wear a face shield when transferring bulk quantities if there is the potential for splashing into the face.

Skin protection: Wear chemical resistant gloves. Wear protective work clothing. Take off contaminated clothing and wash it before reuse.

Respiratory protection: In workplaces where airborne spray or mist concentrations cause respiratory tract irritation or eye irritation is experienced, use a combination of engineering controls (e.g. ventilation) and personal protection (e.g. wear an approved respirator).



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8.3 Individual protection measures (continued):

Other protection: Workplaces should have a hand-wash station and eye-wash fountain readily available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid. Blue.
Odour:	Not available
Odour threshold:	Not available
pH:	2.5 - 3
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point:	Not available
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits:	Not applicable
Evaporation rate:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	1.15 (water = 1)
Solubility (ies):	Soluble in water
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not available
Viscosity:	Not available

Section 10: Stability and Reactivity

10.1 Reactivity:

Reactive with acids. Reaction may be violent or explosive.

10.2 Chemical stability:

Stable at normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions:

None known.

10.4 Conditions to avoid:

Avoid exposure to high temperatures. Protect from freezing.

10.5 Incompatible materials:

Incompatible with strong oxidizing agents.

Use caution when mixing this product with other agricultural chemicals. Some chemicals may be incompatible. Contact OMEX Agriculture Inc. for further information

10.6 Hazardous decomposition products:

If heated above 130°C may generate irritating gases.

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Section 11: Toxicological Information

11.1 Information on toxicological effects:

Likely routes of exposure

Inhalation of spray; Skin contact; Eye contact.

Acute toxicity

Inhalation: Low acute toxicity by the inhalation route.

Ingestion: Acute toxicity estimate for the mixture is greater than 1492 mg/kg in rat.

Skin: Low acute toxicity by the dermal route.

11.2 Acute toxicity data:

<u>Chemical Name</u>	<u>LD₅₀ Oral</u>	<u>LD₅₀ Dermal</u>	<u>LC₅₀ Inhalation 4-hour exposure</u>
Zinc sulfate	926 mg/kg (rat)	> 2 000 mg/kg (rat)	Not available

Skin corrosion / irritation

Zinc sulfate was not irritating to skin of rabbits in a test conducted according to OECD 404 test guideline.

Serious eye damage / irritation

In a study in accordance with OECD test guideline 405, Zinc sulfate monohydrate caused severe eye irritation in rabbits.

STOT (Specific Target Organ Toxicity) – Single exposure

Effects of single exposure following oral exposure in humans include vomiting, anemia and abdominal pain.

STOT (Specific Target Organ Toxicity) – Repeated exposure

For zinc compounds, including zinc sulfate, a number of reversible harmful effects (red and white blood cell deficiencies (anemia and leukopenia), headache, stomach symptoms, and copper deficiency) can result from long-term ingestion, based on non-occupational human reports and animal information.

Aspiration hazard

Does not meet criteria for classification for aspiration toxicity.

Sensitization - respiratory and/or skin

Does not meet the criteria to classify as a sensitizer. Zinc may induce allergic responses in sensitive individuals.

Carcinogenicity

This mixture does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists, OSHA (Occupational Safety and Health Administration) or NTP (National Toxicology Program).

Reproductive toxicity

A NOAEL of 15 mg/kg bw/day is reported for reproductive toxicity in a 2-generation reproductive toxicity study in rats.

Germ cell mutagenicity

Zinc sulfate:

- Negative for gene mutation in a bacterial gene mutation assay.
- Negative for genotoxicity in a mouse bone marrow micronucleus test.

Interactive effects

Data not available



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Section 12: Ecological Information

12.1 Toxicity:

Zinc sulfate is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur along the food chain, for example in fish. It is strongly advised not to let the chemical enter into the environment.

Zinc sulphate:

72 Hr EC₅₀ *Chlorella vulgaris* 64.8 mg/L; 96 Hr EC 50 *Chlorella vulgaris* 2.4 mg/L.

96 Hr LC₅₀ *Oncorhynchus mykiss* 24-26 mg/L (flow-through)

12.2 Persistence and degradability:

Not readily biodegradable

12.3 Bioaccumulative potential:

Not applicable

12.4 Mobility in soil:

Data not available

Section 13: Disposal Considerations

13.1 Disposal methods:

Dispose of liquid fertilizer products in accordance with municipal or provincial or state and federal regulations where they apply. Contact local authorities for disposal of large quantities of product.

Thoroughly rinse out empty containers.

Do not contaminate water when disposing of rinsate or equipment washwaters. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

Section 14: Transport Information

14.1 Canada Transportation of Dangerous Goods (TDG) Regulations:

Marine transport in bulk quantities may be shipped as UN3082, Class 9, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc sulfate 25%), PG III.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Canada

NSNR status: All ingredients are listed on the DSL or are not required to be listed.

NRPI: Zinc and its compounds.

USA

TSCA status: All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Section 313: Zinc compounds.



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Section 16: Other Information

Revision date:

June 12, 2017

References and sources for data:

CCOHS Cheminfo
HSDB
NIOSH Pocket Guide
Manufacturer SDS's

Legend to abbreviations:

ACGIH® – American Conference of Governmental Industrial Hygienists
LD₅₀- Median lethal dose; the dose causing 50 % lethality
NIOSH – National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
REL – Recommended Exposure Limit
RSST – Règlement sur la santé et la sécurité du travail
STEL – Short-term Exposure Limit
TLV® - Threshold Limit Value
TWA – Time Weighted Average
VEMP – Valeur d'exposition moyenne pondérée
WHMIS – Workplace Hazardous Materials Information System.

Additional information:

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