

SECTION 1: IDENTIFICATION

GHS Product Identifier: Zinc 52
Recommended Use: Agriculture/Horticulture, Micronutrient, Zinc
Restrictions on Use: None known.

Company Name: Chemurgic Agricultural Chemicals, Inc.
Address: P.O. Box 2106
 Turlock, CA 95381
Email: info@chemurgic.net
Phone Number: DAY: 209-634-2951 EVE: 209-652-7260

Emergency Phone Numbers: INFOTRAC: 1-800-535-5053
 EPA National Response Center: (800) 424-8802

SECTION 2: HAZARD IDENTIFICATION

Product Classification: Acute Toxicity – Inhalation, Category 4
 Eye Damage/Irritation, Category 2B

GHS Label Elements:

Hazard Pictogram:



Signal Word: Warning

Hazard Statements: Harmful if inhaled. Causes eye irritation.

Precautionary Statements:

Prevention:

Avoid breathing dust.
 Use only outdoors or in a well-ventilated area.
 Wash thoroughly after handling.

Response:

If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center or doctor if you feel unwell.
 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.

Hazards Not Otherwise Classified: Not Classified

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS NUMBER	Percent
Zinc oxide (ZnO)	1314-13-2	60 - <70*
Kaolin	1332-58-7	28
Zinc Sulfate, Monohydrate	7446-19-7	5 - <10*

*A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

- If inhaled:** Remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
- If on skin:** Wash off with soap and water. Get medical attention if irritation develops and persists.
- If in eyes:** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
- If swallowed:** Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed: Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed, if necessary: Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media: Water, water fog, foam, dry chemical powder

Unsuitable Extinguishing Media: Carbon dioxide (CO₂)

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions: In the event of fire, cool tanks with water spray.

Specific methods: Cool containers exposed to flames with water until well after the fire is out.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Keep out of low areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Minimize dust generation and accumulation. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Collect spillage. If sweeping of a contaminated area is necessary, use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dust formation. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not get this material in contact with eyes. Avoid breathing dust. Avoid contact with skin and eyes. Avoid prolonged exposure. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Practice good housekeeping. Avoid release to the environment. Do not empty into drains.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well ventilated place. Guard against dust accumulation of this material. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Zinc oxide, (ZnO) (CAS 1314-13-2)	PEL	5 mg/m ³	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
Zinc oxide, (ZnO) (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Total
Zinc oxide, (ZnO) (CAS 1314-13-2)	Ceiling	15 mg/m ³	Dust.
	STEL	10 mg/m ³	Fume.
	TWA	5 mg/m ³	Dust.
		5 mg/m ³	Fume.

BIOLOGICAL LIMIT VALUES: No biological exposure limits noted for the ingredient(s).

APPROPRIATE ENGINEERING CONTROLS: Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the



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Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Provide eyewash station.

EYE CONTACT: Wear eye/face protection. Use tight fitting goggles if dust is generated.

SKIN CONTACT: For prolonged or repeated skin contact use suitable protective gloves. Wear suitable protective clothing.

RESPIRATORY PROTECTION: Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is risk of exposure to dust/fume at levels exceeding the exposure limits.

THERMAL HAZARDS: 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Powder	UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	Not available
ODOR:	Slight	VAPOR PRESSURE:	0 hPa estimated
ODOR THRESHOLD:	Not available	VAPOR DENSITY:	Not available
pH IN AQUEOUS SOLUTION:	6.2-6.8 (5% solution)	RELATIVE DENSITY:	Not available
MELTING POINT/FREEZING POINT:	1256° F (680° C) estimated	SOLUBILITY:	Not available
INITIAL BOILING POINT & BOILING RANGE:	Not available	PARTITION COEFFICIENT (n-octanol/water):	Not available
FLASH POINT:	Not available	AUTO-IGNITION TEMPERATURE:	Not available
EVAPORATION RATE:	Not available	DECOMPOSITION TEMPERATURE:	Not available
FLAMMABILITY (solid, gas):	Not available	VISCOSITY:	Not available
		BULK DENSITY:	48-52 lb/ft ³

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Stable and non-reactive under normal conditions of use, storage and transport.
CHEMICAL STABILITY:	Stable under normal conditions.
CONDITIONS TO AVOID:	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
HAZARDOUS POLYMERIZATION:	Does not occur.
INCOMPATIBLE MATERIALS:	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	No hazardous decomposition products are known.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Zinc 52 (CAS Mixture)

Dermal	LD50	Rat	>10,000 mg/kg, estimated
Inhalation	LC50	Mouse	8.6 mg/l, 4 hours, estimated
Oral	LD50	Mouse	>12,000 mg/kg, estimated
		Rat	>6,500 mg/kg, estimated

Components Species

Kaolin (CAS 132-58-7)

Dermal	LD50	Rat	>5,000 mg/kg
Oral	LD50	Rat	>5,000 mg/kg

Zinc oxide, (ZnO) (CAS 1314-13-2)

Inhalation	LC50	Mouse	>5.7 mg/l, 4 hours
Oral	LD50	Mouse	7,950 mg/kg
		Rat	>5g/kg
Other	LD50	Rat	240 mg/kg

Zinc sulfate, Monohydrate (CAS 7446-19-7)

Dermal	LD50	Rat	>2,000 mg/kg
Oral	LD50	Rat	623 mg/kg
Other	LD50	Mouse	71.7 mg/kg
		Rat	40 mg/kg

SKIN CORROSION/IRRITATION: Due to lack of data the classification is not possible.

SERIOUS EYE DAMAGE/EYE IRRITATION: Dust in eyes will cause irritation.

RESPIRATORY SENSITIZATION: Due to lack of data the classification is not possible.

SKIN SENSITIZATION: Due to lack of data the classification is not possible.

GERM CELL MUTAGENICITY: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

CARCINOGENICITY: Due to lack of data the classification is not possible.

REPRODUCTIVE TOXICITY: Due to lack of data the classification is not possible.

SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE: Due to lack of data the classification is not possible.

SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE: Due to lack of data the classification is not possible.

ASPIRATION HAZARD: Due to lack of data the classification is not possible.

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Ingestion: Not available.

Inhalation: Prolonged inhalation may be harmful. Inhalation of dusts may cause respiratory irritation.

Skin contact: Due to lack of data the classification is not possible.

Eye contact: Dust in the eyes will cause irritation.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:

Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Zinc 52 (CAS Mixture)

Crustacea	EC50	Daphnia	>100 mg/l, 48 hours estimated
Fish	LC50	Fish	>175 mg/l, 96 hours estimated

Zinc Oxide, (ZnO) (CAS 131-13-2)

Aquatic Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	>2,200 mg/l, 96 hours
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Zinc Sulfate, Monohydrate (CAS 7446-19-7)

Crustacea	EC50	Rotifer (<i>Philodina acuticornis</i>)	0.03 mg/l, 96 hours
Fish	LC50	Rainbow trout, Donaldson trout (<i>Oncorhynchus mykiss</i>)	0.162 mg/l, 96 hours

PERSISTENCE AND DEGRADABILITY: No data available.

BIOACCUMULATIVE POTENTIAL: Not available.

MOBILITY IN SOIL: Not available.

OTHER ADVERSE EFFECTS: No other adverse effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL INSTRUCTION: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. 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.

HAZARDOUS WASTE CODE: 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: Empty containers should be taken to an approved handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14: TRANSPORT INFORMATION

DOT:

Packages < 16,667 lbs. (7,560 kg): Not regulated in domestic (USA ground) transportation.

Packages ≥ 16,667 lbs. (7,560 kg): UN3077, Environmentally hazardous substances, solid, n.o.s., mixture (Zinc Sulfate, Monohydrate RQ=16,667 lbs.; Zinc Oxide (ZnO)), 9, III, Marine Pollutant

IMDG:

UN3077, Environmentally hazardous substances, solid, n.o.s. mixture, (Zinc oxide (ZnO)), 9, III, Marine Pollutant

IATA:

UN3077, Environmentally hazardous substances, solid, n.o.s. mixture, (Zinc oxide (ZnO)), 9, III

DOT; IATA; IMDG



MARINE POLLUTANT



SECTION 15: REGULATORY INFORMATION

US Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Zinc oxide, (ZnO) (CAS 1314-13-2) LISTED

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

SARA 304 Emergency release notification: Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance: No

SARA 311/312 Hazardous chemical: No

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.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number: Not listed.

Food and Drug Administration (FDA): Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Kaolin (CAS 1332-58-7)

Zinc oxide, (ZnO) (CAS 1314-13-2)

Zinc Sulfate, Monohydrate (CAS 7446-19-7)

US. New Jersey Worker and Community Right-to-Know Act

Zinc oxide, (ZnO) (CAS 1314-13-2) 500 lbs

Zinc Sulfate, Monohydrate (CAS 7446-19-7) 500 lbs.

US. Pennsylvania RTK - Hazardous Substances

Kaolin (CAS 1332-58-7)

Zinc oxide, (ZnO) (CAS 1314-13-2)

Zinc Sulfate, Monohydrate (CAS 7446-19-7)

US. Rhode Island RTK

Zinc oxide, (ZnO) (CAS 1314-13-2)



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US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

United States & Puerto Rico: This product complies with the Toxic Substances Control Act (TSCA) inventory requirements administered by the governing country(s).

SECTION 16: OTHER INFORMATION

All information contained in this Material Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee is expressed or implied as to the results to be obtained based upon your use of the information.

SDS DATE: 01/19/16. Supersedes version dated 09/09/14.