

Safety Data Sheet

MetaStar 2E

SDS: 5/9/15

Section 1 – Chemical Product and Company Identification

Product Name: MetaStar 2E

CAS # 57837-19-1

EPA Reg. #: 71532-5-91026

Product Use: Fungicide

Chemical Class: Acylalanine fungicide

Company Identification: LG Life Science America Inc.
910 Sylvan Avenue
Englewood Cliffs, NJ 07632

Emergency call: 201-816-2310

Transport Emergency: CHEMTREC 1-800-424-9300

Section 2 – Hazards identification

Classification of substance:



Cause serious eye irritation

Harmful if swallowed

Cause mild skin irritation

May be harmful in contact with skin

Harmful if on skin

Combustible liquid

GHS labeling elements:

The substance is classified and labeled according to the Globally Harmonized System (GHS):

Hazard pictograms:



GHS07

GHS02

Signal Word: Warning

Hazard-determined components of labeling: Metalaxyl

Hazard statements:

Cause serious eye irritation

Harmful if swallowed

Cause mild skin irritation

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May be harmful in contact with skin

Harmful if on skin

Combustible liquid

Precautionary Statements:

Prevention:

Keep away from flames and hot surfaces. No smoking.

Wear protective gloves/eye protection/face protection.

Wash hands and contaminated skin thoroughly after handling.

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

Avoid breathing vapor or mist.

Use only outdoors or in a well-ventilated area.

Response:

If Swallowed: Immediately call poison center or physician. Rinse mouth.

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

In case of Fire: Remove unauthorized persons and call emergency response. Use foam, carbon dioxide or dry chemical to extinguish.

If in Eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice or attention.

Collect spillage

If on Skin: Take off contaminated clothing and wash before reuse. Rinse skin with water.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents and containers in accordance with local, regional, national, and international regulations.

NFPA Rating: Health: 1, Flammability: 2, Reactivity: 0

Section 3 – Composition/information of ingredient

Chemical Name	Trade names and Synonyms	Percent	CAS No.
Metalaxyl	Metalaxyl:N-(2,6-dimethylphenyl)-N-(methoxyacetyl) alanine methyl ester	23.0%	57837-19-1
Inert Ingredients	Aromatic petroleum solvent ¹	*	68477-31-6
	Alcohol-based solvent		97-99-4
	Proprietary components		

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***Proprietary information**

¹ The manufacturer of the aromatic petroleum solvent recommends the occupational exposure limit at 100ppm total hydrocarbon based on composition. According to the AIHA WEEL Guide, the recommended airborne exposure limit for the alcohol-based solvent is 2ppm (8hr. TWA).

Section 4 – First Aid Measures

Symptoms	Aromatic petroleum solvent aspirated into respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death. Irritation to the eyes and respiratory tract, dizziness, headaches, anesthesia, drowsiness, nausea, vomiting, blurred vision, and other central nervous system effects.
Swallowed:	Call a physician or poison control center immediately for treatment advice. Do not induce vomiting as it may cause aspiration pneumonia. Do not give anything by mouth to an unconscious person.
Eyes:	May cause irritation do not rub eyes. Hold eye open and rinse slowly and gently with for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Inhalation:	May cause irritation. Remove to fresh air. If person stops breathing or irregular, give artificial respiration and supply oxygen. Call a poison control center or doctor for further treatment advice
Skin:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes.

Note to Physicians

Consideration should be given to gastric lavage with an endotracheal tube in place. A slurry of activated charcoal in water may be left in the stomach. Give a saline laxative followed by symptomatic and supportive care. For current information about the treatment, consult a certified Regional Poison Control Center by calling the number listed in your local telephone directory. Notify medical personnel of contaminated situations and have them take appropriate protective measures.

Section 5 – Fire Fighting Measure

Extinguishing media: Foam, carbon dioxide, or dry chemical is preferred. Soft stream water fog only if necessary.

Fire and Explosive Hazards: Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

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Special fire fighting procedures: Evacuate the area and fight fire upwind from a safe distance to avoid hazardous decomposition products. Foam Fire-extinguishing system is preferred because uncontrolled water can spread possible contamination. Fireman should wear positive pressed freely breathing devices, complete fire protection clothes and shoes. Do not access if tank is on fire. Use water to cool exposed containers to extinguish fire. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Avoid inhalation of materials or combustion by-product. Vapor or gas is burned at distant ignition sources can be spread quickly.

Reference to other sections:

See Section 10 for decomposition products.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Wear approved respiratory protection, chemically compatible gloves and protective clothing. Keep unprotected person's way. Allow work against the wind and remove all people upwind. Do not direct water at spill or source leak. Caution combustible.

Environmental precautions: Based on existing data, metalaxyl is moderately stable in water, with an approximate half-life ranging from 100 to 200 days depending on the pH. Metalaxyl is moderately persistent in soil, with an approximate half-life ranging from 40 to 70 days under aerobic and anaerobic conditions. Metalaxyl may be highly mobile in certain soil types and has the potential to affect groundwater quality. Data indicate that metalaxyl has a very low order of toxicity to aquatic organisms, birds, bees, and other wildlife. Do not apply this product directly to water, surface waters, or water runoff areas. Avoid spray drift or other means of contamination to non-target areas.

Methods and material for containment and cleaning up:

In case small leak or spill: soak up with sand, clay, sawdust, earth or synthetic absorbent (Do not use alkaline absorbents) and dispose of waste in compliance with local, state, and Federal regulations. Sweep up material, place in a bottle (non-leaking container), and hold for waste disposal. Area can be washed down with a suitable solution of bleach or soda ash and an appropriate alcohol (methanol, ethanol, or isopropanol). Follow this by washing with strong soap and water solution. Absorb any excess liquid as indicated above, and add to the disposal container. Keep product contaminated materials and wash water out of stream and sewers. Wash exposed body areas thoroughly after handling.

In case large leak or spill: Eliminate potential source of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, other suitable material; place in non-leaking containers and seal tightly for proper disposal. Flush area with water to remove trace residue; dispose of flush solution as above.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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Section 7 – Handling and Storage

Handling

Precautions for safe handling: Do not swallow. Do not get in eyes, on skin or clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Wash clothing after use. Discard shoes if contaminated. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not contaminate water, food, or feed by storage. Since emptied containers retain product residue (vapor, liquid, solid) follow all MSDS and label warnings even after container is empty. Keep protective respiratory device available.

Conditions for Safe Storage, including any incompatibilities

Storage: Store in original container only. Keep container closed when not in use. Do not store near food or feed. Avoid direct sunlight. Do not apply physical shock to container.

Requirements to be met by storerooms and receptacles: Store in a secure, dry and temperate area. Do not use or store around the home.

Reference to other sections:

See Section 10 for incompatibilities

Section 8 – Contact Controls and Personal Protection

Max allowed concentration: Metalaxyl: None establishment

Aromatic petroleum solvent: None establishment. Supplier recommends a guideline of 100ppm total hydrocarbon based on composition.

Alcohol-based solvent: AIHA WEEL recommends the airborne exposure limit at 2ppm (8 hour TWA)

Way of measurement: No Data

Engineering Control: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep risk of inhalation low. Take safety shower after handling equipment. Use explosion proof ventilation as required to control vapor concentrations. Keep liquid and vapor away from heat, sparks, or flame. Surfaces that are sufficiently hot may ignite liquid product even in the absence of sparks or flame. Extinguish pilot lights, cigarettes and turn off other source of ignition prior to use and until all vapors are gone. Do not cut, drill, grind or weld on or near container: even emptied containers can contain explosive vapors. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guideline. Ventilate all transport vehicles prior to unloading.

Personal Protection

Respirators: Atmospheric levels should be maintained below the exposure guideline. For most conditions, no respiratory protection should be needed; however, if the exposure guideline is exceeded, use an air-purifying respirator approved for pesticide (U.S. NIOSH/MSHA, EU CEN, or comparable certification organization)

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles such as splash resistant safety goggles with a secondary protection faceshield. Provide an emergency eye wash station and quick drench shower in the immediate work area.

Body: Wear appropriate chemical resistant overalls and rubber boots and rubber gloves. Avoid any skin exposure. For increased exposures, wear a full body cover barrier suit, such a PVC rain suit. Contaminated leather articles, such as shoes, belts, and watchbands, should be removed and destroyed. Launder all work

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clothing before reuse. Keep work clothing separated from household laundry.

Hands: Wear appropriate gloves, such as barrier laminate or neoprene rubber or nitrile rubber or Viton.

General protective and hygienic measures: Discard clothing other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Wash contaminated clothing before reuse. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. No smoking, eating or drinking during handling. Change to clean clothes after washing.

Other conditions: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties

General Information:

Appearance and Physical State: Fluid (EC based on water), mild petroleum odor

Color: light amber

pH Value: Not available

Viscosity: 40 cps @ 30 rpm

Vapor Pressure (25 °C): Not available

Melting point: Not available

Boiling Point: Not applicable

Specific Gravity: Not available

Comparative concentration (water: 1): Not available (not required for end use)

Quantity of heat in burning (KJ/mol): Not available (not required for end use)

Density (gm/cm³): 1.06

Critical pressure (Mpa): Not available

Critical temperature: Not available

Flash point (C): > 93

Flammability Limits: LFL: 1.5%

UFL: 11.8%

Burning temperature (C): Not available

Solubility: Dispersible in water

Section 10 – Stability and Reactivity

Chemical Stability: This material is stable at the normal storage conditions.

Incompatible to Avoid: Oxidizers, strong acids, and strong bases

Conditions to Avoid: Avoid heating above 200°F (93°C). Contains a petroleum distillate solvent, which will burn. This product is volatile and may produce vapors, which can ignite or explode.

Decomposition Products: Under fire conditions, carbon dioxide and carbon monoxide can be formed

Hazardous Polymerization: Will not occur

Reference to other sections:

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See Section 5 for static discharge potential

Section 11 – Toxicological Information

Acute Toxicity:

LD/LC50 values that are relevant for classification:

Oral: LD₅₀ > 500 mg/kg

Inhalation: LC₅₀ > 0.5 mg/l

Dermal: LD₅₀ > 6,000 mg/kg

Eyes: Substantial but temporary eye injury

Skin: Not a skin sensitizer

Primary irritant effect:

On eyes: Causes substantial but temporary eye injury. Do not get in eyes or on clothing

If swallowed: Harmful if swallowed. No hazards anticipated from swallowing small amounts incidental to normal handling operation.

If inhaled: Harmful if inhaled. Avoid prolonged or repeated inhalation of vapors may be harmful.

On the skin: Harmful if absorbed through skin. Avoid contact with skin or clothing.

Respiratory sensitization: Single exposure to dust is not likely to be hazardous. Vapors are unlikely due to physical properties.

Skin Sensitization: Product is not considered a contact sensitizer.

Systemic (Other Target Organs) Effect: Long-term studies with metalaxyl in laboratory animal produced increased liver weights, elevated serum alkaline phosphatase, and an increased incidence of periacinar vacuolation of hepatocytes. There was no clinical signs or adverse findings in hematology, urinalysis, or histopathology. Relatively high levels of the alcohol-based solvent are reported to cause depression of the central nervous system.

Germ Cell Mutagenicity: Based on a number of in vitro and in vivo studies, it was concluded that metalaxyl is not a mutagen. There are no reports that the inert ingredient in this product has any mutagenic potential.

Carcinogenicity: Chronic feeding studies with metalaxyl in mice and rats demonstrated that there is no carcinogenic potential in laboratory animal. Based on these data, the EPA classified metalaxyl as a Group E carcinogen (evidence of non-carcinogenicity for human). The inert ingredients are not listed as carcinogens by NTP or IARC.

Reproductive Toxicity: It is reported in several laboratory animal studies that metalaxyl does not cause birth defects. A oral screening developmental screening study in rats for the alcohol-based solvent indicated lower mean fetal body weights at 100mg/kg/day. Metalaxyl did not interfere with fertility in animal reproduction studies. It was reported that relatively high levels of the alcohol-based solvent might cause decreased male fertility.

STOT-Single Exposure: Not available

STOT-Repeated Exposure: Not available

Aspiration Hazard: Not available

Preexisting condition: Individual with preexisting disease of the liver, kidney skin of peripheral nervous system may have increased susceptibility to the toxicity of excessive exposure.

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Section 12 – Ecological Data

Eco-toxicity:

Metalaxyl:

96 hour LC₅₀- Bluegill sunfish:	139mg/l
96 hour LC₅₀- Rainbow trout:	132mg/l
96 hour LC₅₀-Daphnia magna:	121- 28mg/l

Avian Toxicity: This pesticide is practically slightly to non-toxic to birds.

Aquatic Toxicity: This pesticide is practically non-toxic to both cold and warm water fish. This product is slight toxic to freshwater fish. It is also slightly toxic to aquatic invertebrates. Metalaxyl is considered a moderately or slightly toxic to marine species

Section 13 – Disposal Considerations

Waste Disposal: Do not contaminate water, food, or feed by disposal. Dispose of waste in accordance with all applicable Federal, State, and local laws. Improper disposal of excess pesticide, spray mixture, or rinsate is violation of Federal Law. If the waste cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Do not distribute, make available, furnish or reuse empty containers. Triple rinse (or equivalent), then offer for recycling or reconditioning if container reuse is permitted. If container reuse is prohibited, puncture metal containers and dispose of in a sanitary landfill, or by other approved State and local authorities, if burned, stay out of smoke.

Section 14 – Transport Information

DOT CLASSIFICATION: Ground Transport-NAFTA
Not regulated

B/L Freight Classification: Fungicides, NOI, O/T Poison

Comments: Water Transport- International
Not Regulated

Storage: Store in a cool place, keeping away from heat and light.

Section 15 – Regulatory Data

Hazard Data	FIFRA Classification/Typical Hazard Labeling, as outlined in	OSHA HCS Requirement for
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	EPA Label Review Manual	Section 2 of SDS
Signal Word	WARNING	WARNING
Acute Toxicity, oral LD₅₀ > 500 mg/kg	(Category III) Harmful if inhaled	(Category 4) Harmful if swallowed
Acute Toxicity, dermal LD₅₀ > 6,000 mg/kg	(Category IV) No required hazard labeling	(Category 5) May be harmful in contact with skin
Acute Toxicity, inhalation LD₅₀ > 0.5 mg/l	(Category III) Harmful if inhaled	(Category 4) Harmful if inhaled
Skin Irritation	(Category III) Avoid contact with skin or clothing	(Category 3) Cause mild skin irritation
Eye Irritation	(Category II) Substantial but temporary eye injury	(Category 2B) Cause serious eye irritation
Sensitization	Not labeled	Not classified
Germ Cell Mutagenicity	Not labeled	Not classified
Carcinogenicity	Not labeled	Not classified
Reproductive/developmental Toxicity	Not labeled	Not classified
Specific target organ toxicity, single exposure	Not labeled	Not classified
Specific target organ toxicity, repeated exposure	Not labeled	Not classified
Aspiration	Not labeled	Not classified
Environmental (aquatic) toxicity	Not labeled	Not classified

FIFRA Classification: This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also included other important information, including direction for use. Following is the hazard information as required on the pesticide label:

WARNING

Causes substantial but temporary eye injury

Harmful if swallowed, absorbed through the skin or if inhaled.

Do not get in eyes or on clothing.

Avoid contact with skin.

Avoid breathing vapors or spray mist.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using

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tobacco.

Remove and wash contaminated clothing before reuse.

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Chemical Name	CAS Number	Concentration
Metalaxyl	578737-19-1	23%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA “Hazard Categories” promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

A delay health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, SUPERFUND): This product contains the following substance(s) listed as “Hazardous Substance” under CERCLA which may require reporting of release:

Category:

Chemical Name	CAS Number	RQ	% in Product
Metalaxyl	57837-19-1	not listed	23.0%

GHS labeling elements:

The substance is classified and labeled according to the Globally Harmonized System (GHS):

Hazard pictograms:



GHS07 GHS02

Signal Word: Warning

Hazard-determined components of labeling: Metalaxyl

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Hazard statements:

Cause serious eye irritation

Harmful if swallowed

Cause mild skin irritation

May be harmful in contact with skin

Harmful if on skin

Combustible liquid

Precautionary Statements:

Prevention:

Keep away from flames and hot surfaces. No smoking.

Wear protective gloves/eye protection/face protection.

Wash hands and contaminated skin thoroughly after handling.

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

Avoid breathing vapor or mist.

Use only outdoors or in a well-ventilated area.

Response:

If Swallowed: Immediately call poison center or physician. Rinse mouth.

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

In case of Fire: Remove unauthorized persons and call emergency response. Use foam, carbon dioxide or dry chemical to extinguish.

If in Eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice or attention.

Collect spillage

If on Skin: Take off contaminated clothing and wash before reuse. Rinse skin with water.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents and containers in accordance with local, regional, national, and international regulations.

NFPA Rating: Health: 1, Flammability: 2, Reactivity: 0

Section 16 – Additional information

Reference: The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein. This Safety Data Sheet was compiled with data and information from the following source: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

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