

# Safety Data Sheet

**MetaStar ST**

**SDS: 10/14/15**

## Section 1 – Chemical Product and Company Identification

**Product Name:** MetaStar ST

**CAS #** 57837-19-1

**EPA Reg. #:** 71532-22-91026

**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:**



**May be harmful if swallowed**

**Harmful in contact with skin**

**May be harmful if inhaled**

**Cause skin irritation**

**Cause eye irritation**

**GHS labeling elements:**

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

**Hazard pictograms:**



GHS07

**Signal Word:** Warning

**Hazard-determined components of labeling:** Metalaxyl

**Hazard statements:**

**May be harmful if swallowed**

**Harmful in contact with skin**

**May be harmful if inhaled**

**Cause skin irritation**

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Cause eye irritation

**Precautionary Statements:**

**Prevention:**

**Wear protective gloves/protective clothing**

**Wash hands thoroughly after handling**

**Wear protective gloves**

**Response:**

**If Swallowed:** Call poison center or physician if you feel unwell. Rinse mouth.

**If on Skin:** Wash with plenty of water after handling. Take off contaminated clothing and wash before reuse. Rinse skin with water. If skin irritation persists get medical attention.

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

**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**

**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: 2, Flammability: 0, 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	29.99%	57837-19-1
Inert Ingredients	Aromatic petroleum solvent*	*	

**\*Proprietary information**

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## Section 4 – First Aid Measures

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.
Skin:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes.
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.
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

### Note to Physicians

This product has low oral, dermal, and inhalation toxicity. It is moderately irritating to the eyes and skin and is minimally irritating to the eyes. There is no specific antidote for this product.

Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

## 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.

**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 NIOSH approved self-contained breathing apparatus and full protective clothing. 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. Do not allow fire fighting water to escape into waterways or sewers. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

### 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 unauthorized and unprotected

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person's way from the spill and isolate the area. Allow work against the wind and remove all people upwind. Do not direct water at spill or source leak. Caution combustible.

**Environmental precautions:** Metalaxyl is stable to hydrolysis at various pH values with a half-life ranging from 115 to 200 days. Its photodegradation half-life in water was reported at 400 days. Under aerobic and anaerobic conditions, the metabolic half-life of metalaxyl in soils and water indicated a range from 27 to 66 days. Although metalaxyl is reported to have strong leaching characteristics in laboratory studies, it is found to be less stable under actual field conditions. Metalaxyl is practically non-toxic to birds and fish, and is considered to be only slightly toxic to freshwater aquatic invertebrates. In acute toxicity tests with marine and estuarine species, metalaxyl was slightly toxic to mysid shrimp and moderately toxic to the Eastern oyster. Test results in other non-target plants and animals indicate that metalaxyl has a very low potential of toxicity to wildlife.

### 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.

## Section 7 – Handling and Storage

### Handling

**Precautions for safe handling:** Do not get in eyes. Do not swallow, 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 SDS 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. Keep out of reach of children and animals.

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**Requirements to be met by storerooms and receptacles:** Store in a secure, dry and temperate area. Do not use or store around the home. Keep away from food, feedstuffs, and water supplies.

**Reference to other sections:**

See Section 10 for incompatibilities

## Section 8 – Contact Controls and Personal Protection

**Max allowed concentration:** No Data

**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. 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 pesticides (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 coveralls or long-sleeved shirt and long pants, chemical protective gloves (nitrile, neoprene, or Viton® brand), head covering and shoes plus socks. For increased exposures, wear a full body cover barrier suit, such as a PVC rain suit. Contaminated leather articles, such as shoes, belts, and watchbands, should be removed and destroyed. Launder all work 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.

## Section 9 – Physical and Chemical Properties

**Information on basic physical and chemical properties**

**General Information:**

**Appearance and Physical State:** Opaque liquid

**Color:** Beige

**pH Value:** 5.92 in an aqueous solution

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**Viscosity:** 548cps @ 25deg. C (Brookfield)

**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/cm<sup>3</sup>):** 1.059

**Critical pressure (Mpa):** Not available

**Critical temperature:** Not available

**Flash point (C):** Not available

**Flammability Limits:** Not available

**Burning temperature (C):** Not available

**Solubility:** Miscible 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 alkaline materials

**Conditions to Avoid:** This product is volatile and may produce vapors, which can ignite or explode.

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

**Hazardous Polymerization:** Will not occur

**Reference to other sections:**

See Section 5 for static discharge potential

### Section 11 – Toxicological Information

**Acute Toxicity:**

**LD/LC50 values that are relevant for classification:**

**Eyes:** Causes eye irritation. Do not get into eyes.

**Skin:** Causes skin irritation. Do not get on skin or on clothing.

**Oral:** LD<sub>50</sub> > 2,900 mg/kg

**Inhalation:** LC<sub>50</sub> > 21.94 mg/l

**Dermal:** LD<sub>50</sub> > 2,000 mg/kg

**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.

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**Skin Sensitization:** Product is not considered a contact sensitizer.

**Systemic (Other Target Organs) Effect:** In chronic feeding studies with laboratory animals, high doses of metalaxyl caused an increase in liver weights and circulating blood enzymes. No other target organs were affected.

**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 indicated limited evidence of oncogenicity in laboratory animals. Based on comprehensive evaluations of all relevant health effects data, it was concluded that metalaxyl is not a human carcinogen.

**Reproductive Toxicity:** Metalaxyl did not interfere with fertility in animal reproduction studies. The no effect level in a two-generation rat reproduction study was 63mg/kg/day.

**TERATOLOGY (BIRTH DEFECTS):** Did not cause birth defects in animal studies. Exposures having no effect on the mothers had no effect on the fetuses. The no effect levels in rabbits and rats were 150 mg/kg and 50 mg/kg, respectively.

**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.

## Section 12 – Ecological Data

**Eco-toxicity:**

**Metalaxyl Technical:**

<b>96 hour LC<sub>50</sub>- Bluegill sunfish:</b>	139mg/l
<b>96 hour LC<sub>50</sub>- Rainbow trout:</b>	132mg/l
<b>96 hour LC<sub>50</sub>-Daphnia magna:</b>	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 slightly 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 a 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

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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, (Metalaxyl), Other than 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 EPA Label Review Manual	OSHA HCS Requirement for Section 2 of SDS
<b>Signal Word</b>	<b>WARNING</b>	<b>WARNING</b>
<b>Acute Toxicity, oral LD<sub>50</sub> &gt; 2,900 mg/kg</b>	(Category III) Harmful if inhaled	(Category 5) May be harmful if swallowed
<b>Acute Toxicity, dermal LD<sub>50</sub> &gt; 2,000 mg/kg</b>	(Category III) Harmful if absorbed through skin	(Category 4) Harmful in contact with skin
<b>Acute Toxicity, inhalation LD<sub>50</sub> &gt; 21.94 mg/l</b>	(Category IV) Harmful if inhaled	(Category 5) May be harmful if inhaled
<b>Skin Irritation</b>	(Category II) Causes skin irritation	(Category 2) Cause skin irritation
<b>Eye Irritation</b>	(Category III) Causes moderate eye irritation	(Category 2B) Cause eye irritation
<b>Sensitization</b>	Not labeled	Not classified
<b>Germ Cell Mutagenicity</b>	Not labeled	Not classified
<b>Carcinogenicity</b>	Not labeled	Not classified
<b>Reproductive/developmental Toxicity</b>	Not labeled	Not classified
<b>Specific target organ toxicity, single exposure</b>	Not labeled	Not classified
<b>Specific target organ toxicity,</b>	Not labeled	Not classified



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repeated exposure		
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 skin irritation

Harmful if swallowed or absorbed.

Causes moderate eye irritation.

Do not get on skin or on clothing.

Avoid contact with skin.

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

Remove and wash contaminated clothing before reuse.

**SARA 313 INFORMATION:** This product does not contain any substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

Chemical Name	CAS Number	Concentration
Metalaxyl	578737-19-1	29.99%

**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

**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,**

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**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	29.99%

**GHS labeling elements:**

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

**Hazard pictograms:**



GHS07

**Signal Word: Warning**

**Hazard-determined components of labeling:** Metalaxyl

**Hazard statements:**

**May be harmful if swallowed**

**Harmful in contact with skin**

**May be harmful if inhaled**

**Cause skin irritation**

**Cause eye irritation**

**Precautionary Statements:**

**Prevention:**

**Wear protective gloves/protective clothing**

**Wash hands thoroughly after handling**

**Wear protective gloves**

**Response:**

**If Swallowed:** Call poison center or physician if you feel unwell. Rinse mouth.

**If on Skin:** Wash with plenty of water after handling. Take off contaminated clothing and wash before reuse. Rinse skin with water. If skin irritation persists get medical attention.

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

**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**

**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: 2, Flammability: 0, Reactivity: 0

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## 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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