

Echo UltimateTurf and Ornamental Fungicide

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name	Mixture
Trade Names	Echo Ultimate Turf and Ornamental Fungicide
CAS No.	Mixture
EPA Identification Number	EPA Reg. No. 60063-3

Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	Fungicide
Uses Advised Against	Do NOT aerosolize or atomize to produce inhalable-size particles.

Details of the supplier of the safety data sheet

Company Identification	Sipcam Agro USA, Inc. 2525 Meridian Parkway, Suite 350 Durham, NC 27713 United States of America
Telephone	(919) 226-1195

Emergency telephone number

Emergency Phone No.	CHEMTREC 24 hr. 1-800-424-9300 / 1 (703) 527-3887 (Collect calls accepted)
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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA HCS (29 CFR 1910.1200)	Acute Tox. 2; Eye Dam. 1; Carc. 2; STOT SE 3
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Label elements

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 labeling information below applies to non-pesticide workplace labels. For pesticide label information, refer to Section 15.

Hazard Symbol(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Fatal if inhaled (Mist / Aerosol).
Causes serious eye damage.
Suspected of causing cancer.
May cause respiratory irritation (Mist / Aerosol).

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Precautionary Statement(s)

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe mist/spray.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use of high-pressure spray may cause toxic aerosols. Use only outdoors or in a well-ventilated area.
 In case of inadequate ventilation wear respiratory protection.
 Wash hands and exposed skin after use.
 Contaminated work clothing should not be allowed out of the workplace.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
 IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
 IF SWALLOWED: Not normally required. Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.

Other hazards

May cause an allergic skin reaction. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Additional Information

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	%W/W	CAS No.	Hazard Statement(s)
Chlorothalonil	80 - 85	1897-45-6	Acute Tox. 2; H330 Eye Dam. 1; H318 Carc. 2; H351 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Proprietary Emulsifiers and Surfactants	2 - 5	Trade Secret	Skin Irrit. 2; H315 Eye Irrit. 2; H319
Ethylene glycol	< 1.0	107-21-1	Acute Tox. 4; H302 STOT RE 2; H373

Additional Information – None

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Inhalation

Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

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Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Ingestion	Not normally required. Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.
Most important symptoms and effects, both acute and delayed	Fatal if inhaled (Mist / Aerosol). Causes serious eye damage. May cause an allergic skin reaction.
Indication of any immediate medical attention and special treatment needed	IF INHALED: Immediately call a POISON CENTER or doctor/physician.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media	
-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or water spray.
-Unsuitable Extinguishing Media	Do not use water jet.
Special hazards arising from the substance or mixture	Combustion or thermal decomposition will evolve toxic and irritant vapours. Forms oxides of carbon, sulfur, and nitrogen, also chlorine and chlorinated compounds. Decontaminate equipment or materials used in pesticide fires.
Advice for fire-fighters	Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Do not get in eyes. Avoid contact with skin. Do not breathe mist/spray. Wear protective gloves/protective clothing/eye protection/face protection.
Environmental precautions	Prevent substance entering sewers. Avoid release to the environment.
Methods and material for containment and cleaning up	Cover spills with inert absorbent material. Transfer to a container for disposal or recovery. Collect spillage. Wash the spillage area with water. If possible prevent water running into sewers.
Reference to other sections	None
Additional Information	None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Do not get in eyes. Avoid contact with skin. Do not breathe mist/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace.
Conditions for safe storage, including any incompatibilities	
-Storage temperature	Store in a well-ventilated place. Keep cool.Keep container tightly closed. Store locked up.
-Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Specific end use(s)	Fungicide

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA)	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
None	-----	-----	-----	-----	-----	-----

Exposure controls

Appropriate engineering controls

Do **NOT** aerosolize or atomize to produce inhalable-size particles. Use low-pressure course spray only.

Personal protection equipment

Eye/face protection



Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)



Gloves (PVC, Neoprene, or Natural rubber).

Respiratory protection



Not normally required.

Thermal hazards

Not normally required.

Environmental Exposure Controls

Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid.
Color.	Brown
Odor	Slightly pungent
Odor Threshold (ppm)	Not available
pH (Value)	8.82
Melting Point/Freezing Point (C)	Not available
Boiling point/boiling range (°C)	>350 (662°F)
Flash Point (°C)	Non-flammable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Explosive Limit Ranges	Not applicable
Vapour Pressure (Torr)	5.72×10^{-7} @ 25 °C
Vapour Density (Air=1)	Not available
Density (g/ml)	Not available
Specific Gravity	0.857g/ml
Solubility (Water)	Water: 0.6 – 0.9ppm Formulation : Dispersible in water.

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Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	Not available
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt)	Not available
Explosive properties	Not explosive
Oxidizing properties	Does not react with: Water, Ammonium phosphate, Iron powder, or Ferric chloride.
Other information	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Keep away from direct sunlight. Avoid contact with heat and ignition sources. Low temperatures.
Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Hazardous decomposition product(s)	Combustion or thermal decomposition will evolve toxic and irritant vapours: acrid smoke. Forms oxides of carbon, sulfur, and nitrogen, also chlorine and chlorinated compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Skin Contact, Eye Contact

Information on toxicological effects

Chlorothalonil (CAS#1897-45-6):

Acute toxicity (calculated / estimated)	Oral: LD50 ~3260 mg/kg-bw (rat) Dermal: LD50 ~2020 mg/kg-bw (rat) Inhalation: LD50 0.1 mg/L (4 hr) (rat) (Inhalable Dust) - May cause respiratory irritation
Irritation/Corrosivity	Causes serious eye damage.
Sensitization	Based on reliable animal studies, the substance is not a skin sensitizer except possibly in the presence of a carrier solvent such as acetone. The substance may be a weak skin sensitizer based on a relatively small number of physician's clinical reports from exposed workers and, therefore, the potential for skin sensitization cannot be completely ruled out.
Repeated dose toxicity	Not to be expected.
Carcinogenicity	Suspected of causing cancer.

NTP	IARC	ACGIH	OSHA
Animal carcinogen	2B	No.	No.

Mutagenicity	Not to be expected.
Reproductive toxicity	Not to be expected.

Ethylene Glycol (CAS# 107-21-1):

Acute toxicity	LD50 (oral, rat): 7712 mg/kg-bw; human experience demonstrates that lethal amounts can be ingested. LD50 (dermal, rat): >3500 mg/kg-bw
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Irritation	Unlikely to cause eye irritation. Unlikely to cause skin irritation.
Sensitisation	It is not a skin sensitiser.
Repeated dose toxicity	May cause damage to organs through prolonged or repeated exposure: Kidneys (oral)
Developmental Toxicity	Negative. Not a specific developmental toxin.
Toxicity for reproduction	Negative. Not a specific reproductive toxin.
Mutagenicity	Negative
Carcinogenicity	Not to be expected.

NTP	IARC	ACGIH	OSHA
No.	No.	No.	No.
Other information		None	

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chlorothalonil (CAS#1897-45-6):

Short term (estimated / calculated)

LC50 (96 hour): 0.012 mg/L(fish)
EC50 (48 hour): 0.0342 – 0.143 mg/L (crustacea)

Long Term

Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Not persistent.

Bioaccumulative potential

The substance has low potential for bioaccumulation.

Mobility in soil

The substance has low mobility in soil.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

Additional Information

None known.

SECTION 14: TRANSPORT INFORMATION

	Land transport (U.S. DOT) *	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	UN 3082	UN 3082	UN 3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil)		
Transport hazard class(es)	9	9	9
Packing group	III	III	III
Hazard label(s)	Marine Pollutant	Marine Pollutant	Marine Pollutant
Environmental hazards	Yes	Yes	Yes
Special precautions for user	None Assigned	None Assigned	None Assigned

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

* Not regulated for ground shipments in the U.S. in non-bulk packaging (<119 gallons).



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SECTION 15: REGULATORY INFORMATION

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

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or polymer exempt.

EPA FIFRA Information for SDS Section 15 (Regulatory Information):

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:

WARNING

- May be fatal if inhaled.
- Causes substantial, but temporary, eye injury.
- Harmful if absorbed through skin.
- DO NOT Breathe dust.
- Remove and wash contaminated clothing before reuse.
- DO NOT get in eyes, skin, or on clothing.
- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
- Avoid contact with skin.
- Keep out of reach of children.

NOTE TO USER: This product may produce temporary allergic side effects characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. Persons having allergic reaction should contact a physician.

The pesticide label also includes other important information, including directions for use.

ENVIRONMENTAL HAZARDS:

This pesticide is toxic to aquatic invertebrates, and wildlife.

DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
Ethylene glycol	107-21-1	< 1	5000

SARA 311/312 - Hazard Categories:

- Fire
- Sudden Release
- Reactivity
- Immediate (acute)
- Chronic (delayed)

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SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
Chlorothalonil	1897-45-6	80 - 85
Ethylene glycol	107-21-1	< 1

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)	TPQ (Pounds)
None	-----	-----	-----	-----

Proposition 65 (California):

Chemical Name	CAS No.	Typical %wt.	Hazards
Chlorothalonil	1897-45-6	80 - 85	Cancer
Hexachlorobenzene	118-74-1	Trace to none	Cancer

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1 - 16.

Date of preparation: December 29, 2016

Hazard Statement(s) and Risk Phrases Listed in: SECTION 2:/ SECTION 3:

Hazard Statement(s)

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H330: Fatal if inhaled.
- H335: May cause respiratory irritation.
- H351: Suspected of causing cancer.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

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