

# Echo® 90 DF Agricultural Fungicide

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 05/26/2015 Date of issue: 05/19/2015 Supersedes Date: 08/29/2012

Version: 2.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Echo® 90 DF Agricultural Fungicide

**Other means of identification:** EPA Reg. No. 60063-10

#### 1.2. Intended Use of the Product

**Use of the substance/mixture:** Fungicide

#### 1.3. Name, Address, and Telephone of the Responsible Party

##### Manufacturer

Sipcam Agro USA, Inc.  
2525 Meridian Parkway, Suite 350  
Durham, NC 27713  
T 919-226-1195

#### 1.4. Emergency Telephone Number

**Emergency Number** : (800) 424-9300 CHEMTREC (transportation and spills) (800) 900-4044 Poison Control Center (human health) (800) 345-4735 ASPCA (animal health)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### Classification (GHS-US)

Acute Tox. 2 (Inhalation:dust,mist)	H330
Eye Dam. 1	H318
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### 2.2. Label Elements

##### GHS-US Labeling

##### Hazard Pictograms (GHS-US)



##### Signal Word (GHS-US)

: Danger

##### Hazard Statements (GHS-US)

: H317 - May cause an allergic skin reaction.  
H318 - Causes serious eye damage.  
H330 - Fatal if inhaled.  
H335 - May cause respiratory irritation.  
H351 - Suspected of causing cancer.  
H400 - Very toxic to aquatic life.  
H410 - Very toxic to aquatic life with long lasting effects.

##### Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P261 - Avoid breathing dust/fume.  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P284 - [In case of inadequate ventilation] wear respiratory protection.

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P302+P352 - If on skin: Wash with plenty of water  
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P310 - Immediately call a doctor, a POISON CENTER.  
P312 - Call a poison center/doctor if you feel unwell.  
P320 - Specific treatment is urgent (see Section 4 on this label).  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P391 - Collect spillage.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

### 2.3. Other Hazards

No additional information available

### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Chlorothalonil	(CAS No) 1897-45-6	90	Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Silica, amorphous	(CAS No) 7631-86-9	<1	Skin, Eye, Respiratory

Full text of H-phrases: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First Aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**First-aid Measures After Inhalation:** When symptoms occur: go into open air and ventilate suspected area.

**First-aid Measures After Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

**First-aid Measures After Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**First-aid Measures After Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/Injuries:** Fatal if inhaled. Causes serious eye damage. May cause an allergic skin reaction. Irritation of respiratory tract. May cause cancer. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

**Symptoms/Injuries After Inhalation:** Fatal if inhaled. Inhalation of vapors may cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause an allergic reaction in sensitive individuals. May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes serious eye damage.

**Symptoms/Injuries After Ingestion:** May be harmful if swallowed.

**Chronic Symptoms:** May cause cancer.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

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## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Alcohol foam, carbon dioxide, dry chemical, water spray, fog. Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

**Firefighting Instructions:** Exercise caution when fighting any chemical fire.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses. De-contaminate equipment or materials involved in pesticide fires.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Handle in accordance with good industrial hygiene and safety practice.

#### 6.1.1. For Non-emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel. Evacuate unnecessary personnel.

#### 6.1.2. For Emergency Responders

**Protective Equipment:** Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Ventilate area.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Contain and collect as any solid.

**Methods for Cleaning Up:** Collect spillage. Clear up spills immediately and dispose of waste safely.

### 6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Good housekeeping is needed during storage, transfer, handling, and use of this material to avoid excessive dust accumulation. Avoid dust production that exceeds permissible exposure limits.

**Precautions for Safe Handling:** Avoid creating or spreading dust. Do not breathe dust.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

**Incompatible Products:** Strong acids. Strong bases. Strong oxidizers.

**Storage Area:** Store locked up.

### 7.3. Specific End Use(s) Fungicide

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Silica, amorphous	80 mg/m <sup>3</sup> /% SiO <sub>2</sub> TWA	Not Established	6 mg/m <sup>3</sup> TWA	NIOSH

### 8.2. Exposure Controls

**Appropriate Engineering Controls**

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

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**Personal Protective Equipment** : Protective goggles. Gloves. Dust/aerosol mask.



**Hand Protection** : Wear chemically resistant protective gloves.

**Eye Protection** : Chemical goggles or safety glasses.

**Respiratory Protection** : If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

**Other Information** : When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Medium beige granules
Odor	: No incidental odor
Odor Threshold	: No data available
pH	: 8.36
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: Not applicable
Boiling Point	: > 350 °C (662.00 °F)
Flash Point	: Not flammable
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: 5.72 x 10 <sup>-7</sup> torr @25°C
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Bulk Density	: 0.6710 g/mL
Solubility	: Negligible Water: 0.6 - 0.9 ppm Formulation: Dispersible in water
Partition Coefficient: N-octanol/water	: No data available
Viscosity	: Not applicable

**9.2. Other Information** No additional information available

## SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Product is stable.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO<sub>2</sub>). Chlorine. Nitrogen oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information On Toxicological Effects

**Acute Toxicity:** Fatal if inhaled.

Echo® 90 DF Agricultural Fungicide	
ATE (Dust/Mist)	0.05 mg/l/4h
Chlorothalonil (1897-45-6)	
LD50 Oral Rat	3260 mg/kg
LD50 Dermal Rat	2020 mg/kg
LD50 Dermal Rabbit	10 g/kg
LC50 Inhalation Rat	0.1 mg/l/4h
ATE (Oral)	3,260.00 mg/kg body weight

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ATE (Dermal)	2,020.00 mg/kg body weight
ATE (Vapors)	0.10 mg/l/4h
ATE (Dust/Mist)	0.05 mg/l/4h

**Skin Corrosion/Irritation:** Not classified

pH: 8.36

**Serious Eye Damage/Irritation:** Causes serious eye damage.

pH: 8.36

**Respiratory or Skin Sensitization:** May cause an allergic skin reaction.

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Suspected of causing cancer.

<b>Chlorothalonil (1897-45-6)</b>	
IARC group	2B
National Toxicity Program (NTP) Status	Evidence of Carcinogenicity.
<b>Silica, amorphous (1897-45-6)</b>	
IARC group	3

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** May cause respiratory irritation.

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

Silica, amorphous: Skin, eye, respiratory tract

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Fatal if inhaled. inhalation of vapors may cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause an allergic reaction in sensitive individuals. May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes serious eye damage.

**Symptoms/Injuries After Ingestion:** May be harmful if swallowed.

**Chronic Symptoms:** May cause cancer.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

<b>Chlorothalonil (1897-45-6)</b>	
LC50 Fish 1	0.012 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	0.0342 - 0.143 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	0.0076 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

### 12.2. Persistence and Degradability

<b>Echo® 90 DF Agricultural Fungicide</b>	
Persistence and Degradability	Not established.

### 12.3. Bioaccumulative Potential

<b>Echo® 90 DF Agricultural Fungicide</b>	
Bioaccumulative Potential	Not established.
<b>Chlorothalonil (1897-45-6)</b>	
Log Pow	2.9 (at 22 °C)

**12.4. Mobility in Soil** No additional information available

### 12.5. Other Adverse Effects

**Other Information** : Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Treatment Methods:** Waste portions of this product and contaminated absorbent materials may be disposed of by incineration provided the following conditions are observed:

Incinerate in a suitable oven fed by a mixture of air and methane, at 1100-1200°C; The HCl which may form in the incinerator exhaust gas must be conveyed into an aqueous absorption system containing 18-20% of Ca(OH)<sub>2</sub>.

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

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## SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

### 14.1. UN Number

**UN-No.(DOT)** : 3077  
**DOT NA no.** UN3077

Non-Bulk-Not Regulated (DOT defined as container capacities less than or equal to 119 gallons)

### 14.2. UN Proper Shipping Name

**Proper Shipping Name (DOT)** : Environmentally hazardous substances, solid, n.o.s.  
(Contains chlorothalonil)

**Department of Transportation (DOT)** : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

**Hazard Classes**

**Hazard Labels (DOT)** : 9 - Class 9 (Miscellaneous dangerous materials)



**DOT Symbols** : G - Identifies PSN requiring a technical name

**Packing Group (DOT)** : III - Minor Danger

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<b>DOT Special Provisions (49 CFR 172.102)</b>	:	8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg: a. Metal: 11A, 11B, 11N, 21A, 21B and 21N b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2 c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2 d. Fiberboard: 11G e. Wooden: 11C, 11D and 11F (with inner liners) f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner). B54 - Open-top, sift-proof rail cars are also authorized. IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
<b>DOT Packaging Exceptions (49 CFR 173.xxx)</b>	:	155
<b>DOT Packaging Non Bulk (49 CFR 173.xxx)</b>	:	213
<b>DOT Packaging Bulk (49 CFR 173.xxx)</b>	:	240
<b>14.3. Additional Information</b>		
<b>Emergency Response Guide (ERG) Number</b>	:	171

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## Transport by Sea

**DOT Vessel Stowage Location** : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

## Air Transport

**DOT Quantity Limitations Passenger** : No limit

**Aircraft/Rail (49 CFR 173.27)**

**DOT Quantity Limitations Cargo Aircraft** : No limit

**Only (49 CFR 175.75)**

## SECTION 15: REGULATORY INFORMATION

### 15.1 US Federal Regulations

Echo® 90 DF Agricultural Fungicide	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard Delayed (chronic) health hazard
<b>EPA FIFRA Pesticide Product Notice</b>	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 includes other important information, including directions for use.
<b>EPA FIFRA Signal Word</b>	Danger
<b>EPA FIFRA Hazard Statements</b>	Fatal if inhaled. Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Avoid contact with skin. Do not breathe dust. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.
<b>EPA FIFRA Precautionary Statements</b>	Do not get in eyes, on skin, or on clothing. Do not breathe dust.
<b>Chlorothalonil (1897-45-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	0.1 %

### 15.2 US State Regulations

Chlorothalonil (1897-45-6)	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Chlorothalonil (1897-45-6)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 05/26/2015  
**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2



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Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)