

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** ArmorTech CLT 825 DF

**Other means of identification:** EPA Reg. No. 86064-1

### 1.2. Intended Use of the Product

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

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

#### Manufacturer

United Turf Alliance, LLC

8014 Cumming Highway, Suite 403-282

Canton, GA 30115

T 770-335-3015

### 1.4. Emergency Telephone Number

**Emergency Number(s)** : (800) 424-9300 CHEMTREC (transportation and spills)  
(800) 858-7378 NPIC (human and animal health)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### Classification (GHS-US)

Acute Tox. 4 (Inhalation: dust, mist) H332

Eye Irrit. 2A H319

Carc. 2 H351

Aquatic Acute 1 H400

Full text of H-phrases: see section 16

### 2.2. Label Elements

#### GHS-US Labeling

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



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

: Warning

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

: H319 - Causes serious eye irritation.  
H332 - Harmful if inhaled.  
H351 - Suspected of causing cancer.  
H400 - Very toxic to aquatic life.

##### 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 vapors, mist, or spray.  
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P280 - Wear eye protection, protective clothing, protective gloves, respiratory protection.  
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.  
P312 - Call a poison center or doctor if you feel unwell.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P391 - Collect spillage.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

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## 2.3. Other Hazards

No additional information available

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

~12% of the mixture consists of ingredient(s) of unknown acute toxicity. of the mixture consists of ingredients of unknown acute toxicity.

## 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	82.5	Acute Tox. 1 (Inhalation: dust, mist), H330 Eye Irrit. 2B, H320 Carc. 2, H351 Aquatic Acute 1, H400
Ethylene glycol	(CAS No) 107-21-1	<1	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Silica, amorphous, precipitated and gel	(CAS No) 112926-00-8	<0.5	Not classified

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:** Causes serious eye irritation. Harmful if inhaled. Suspected of causing cancer.

**Symptoms/Injuries After Inhalation:** Sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Harmful if inhaled.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Stinging, tearing, redness, and swelling of eyes.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**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.

## 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.

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## 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:** Avoid generation of dust during clean-up of spills. Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean 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

**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

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Ethylene glycol (107-21-1)		
USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (aerosol only)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen

### 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.

**Personal Protective Equipment**

: Protective goggles. Gloves. Dust formation: dust mask.



**Hand Protection**

: Wear chemically resistant protective gloves.

**Eye Protection**

: Chemical goggles or safety glasses.

**Skin and Body Protection**

: Use chemically protective clothing.

**Respiratory Protection**

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**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** : Liquid

**Appearance** : Brown powder

**Odor** : Slightly pungent

**Odor Threshold** : No data available

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pH	: 8.82
Evaporation Rate	: No data available
Melting Point	: Not applicable
Freezing Point	: Not applicable
Boiling Point	: > 350 °C (662 °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
Specific Gravity	: 0.857 g/ml
Specific gravity / density	: 48 lb/gal @20°C
Solubility	: Water: 0.6 - 0.9 ppm Formulation: dispersible in water
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Oxidising/Reducing Properties	: Does not react with water, ammonium phosphate, iron powder or ferric chloride

### 9.2. Other Information

VOC content : Not applicable

## 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>). sulfur oxides. Silicon oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information On Toxicological Effects

Acute Toxicity: Inhalation:dust,mist: Harmful if inhaled.

Echo® Ultimate Turf and Ornamental Fungicide	
LD50 Oral Rat	6200 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	4.75 mg/l/4h
ATE (Oral)	6,200.00 mg/kg body weight
ATE (Vapors)	4.75 mg/l/4h
ATE (Dust/Mist)	4.75 mg/l/4h
Chlorothalonil (1897-45-6)	
LD50 Oral Rat	3500 - 4800 mg/kg
LD50 Dermal Rat	2020 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	2.52 - 13 mg/l/4h
ATE (Oral)	3,500.00 mg/kg body weight
ATE (Dermal)	2,020.00 mg/kg body weight
ATE (Vapors)	2.52 mg/l/4h
ATE (Dust/Mist)	0.05 mg/l/4h
Ethylene glycol (107-21-1)	
LD50 Oral Rat	4700 mg/kg
LD50 Dermal Rat	10600 mg/kg
ATE (Oral)	500.00 mg/kg body weight
ATE (Dermal)	10,600.00 mg/kg body weight

Skin Corrosion/Irritation: Not classified.

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pH: 8.82

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

pH: 8.82

**Respiratory or Skin Sensitization:** Not classified.

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Suspected of causing cancer.

<b>Chlorothalonil (1897-45-6)</b>	
<b>IARC group</b>	2B
<b>National Toxicology Program (NTP) Status</b>	Evidence of Carcinogenicity.
<b>OSHA Hazard Communication Carcinogen List</b>	In OSHA Hazard Communication Carcinogen list.
<b>Silica, amorphous, precipitated and gel (112926-00-8)</b>	
<b>IARC group</b>	3

**Reproductive Toxicity:** Not classified

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

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

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Harmful if inhaled.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Stinging, tearing, redness, and swelling of eyes.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** May cause cancer.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

<b>Chlorothalonil (1897-45-6)</b>	
<b>LC50 Fish 1</b>	0.012 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
<b>EC50 Daphnia 1</b>	0.0342 - 0.143 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>LC 50 Fish 2</b>	0.0076 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
<b>Ethylene glycol (107-21-1)</b>	
<b>LC50 Fish 1</b>	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
<b>EC50 Daphnia 1</b>	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC 50 Fish 2</b>	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

### 12.2. Persistence and Degradability

<b>Echo® Ultimate Turf and Ornamental Fungicide</b>	
<b>Persistence and Degradability</b>	Not established.

### 12.3. Bioaccumulative Potential

<b>Echo® Ultimate Turf and Ornamental Fungicide</b>	
<b>Bioaccumulative Potential</b>	Not established.

<b>Chlorothalonil (1897-45-6)</b>	
<b>Log Pow</b>	2.9 (at 22 °C)

<b>Ethylene glycol (107-21-1)</b>	
<b>Log Pow</b>	-1.93

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

## SECTION 14: TRANSPORT INFORMATION

### 14.1. In Accordance with DOT

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (Contains Chlorothalonil)

**Hazard Class** : 9



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**Identification Number** : UN3077  
**Label Codes** : 9  
**Packing Group** : III  
**Marine Pollutant** : Marine pollutant  
**ERG Number** : 171

## 14.2. In Accordance with IMDG

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Chlorothalonil)  
**Hazard Class** : 9  
**Identification Number** : UN3077  
**Packing Group** : III  
**Label Codes** : 9  
**EmS-No. (Fire)** : F-A  
**EmS-No. (Spillage)** : S-F  
**Marine Pollutant** : Marine pollutant



## 14.3. In Accordance with IATA

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Chlorothalonil)  
**Packing Group** : III  
**Identification Number** : UN3077  
**Hazard Class** : 9  
**Label Codes** : 9  
**ERG Code (IATA)** : 9L



## SECTION 15: REGULATORY INFORMATION

### 15.1 US Federal Regulations

<b>Echo® Ultimate Turf and Ornamental Fungicide</b>	
<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>	Warning
<b>EPA FIFRA Hazard Statements</b>	May be fatal if inhaled. Causes substantial, but temporary, eye injury. Harmful if absorbed through skin.
<b>EPA FIFRA Precautionary Statements</b>	Remove and wash contaminated clothing before reuse. Do not breathe {0 message=<specify applicable conditions> default=vapors, mist, or spray filter=(_)?INHAL_CONDITION_+.}. Do not get in eyes, on 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.

### Chlorothalonil (1897-45-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on United States SARA Section 313

**SARA Section 313 - Emission Reporting** 0.1 %

### Ethylene glycol (107-21-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on United States SARA Section 313

**EPA TSCA Regulatory Flag** Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**SARA Section 313 - Emission Reporting** 1.0 %

### 15.2 US State Regulations

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<b>Chlorothalonil (1897-45-6)</b>	
<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) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	

<b>Ethylene glycol (107-21-1)</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) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	

<b>Silica, amorphous, precipitated and gel (112926-00-8)</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

### 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. 1 (Inhalation: dust, mist)	Acute toxicity (inhalation: dust, mist) Category 1
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation: gas)	Acute toxicity (inhalation: gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Inhalation: dust, mist)	Acute toxicity (inhalation: dust, mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Skin Sens. 1B	Skin sensitization Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
	May form combustible dust concentrations in air
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation

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H320	Causes eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

**Conditions:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of United Turf Alliance, LLC. All such risks shall be assumed by the user or the buyer.

**Disclaimer of Warranties:** To the extent consistent with applicable law, United Turf Alliance, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this SDS or label. No agent of United Turf Alliance, LLC is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, United Turf Alliance, LLC disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**Limitations of Liability:** To the extent consistent with applicable law, the exclusive remedy for the use or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at United Turf Alliance, LLC's election, the replacement of the product.

SDS US (GHS HazCom)