



# MATERIAL SAFETY DATA SHEET

## ARREST 75W

Version: 1.6  
Date of Issue: 01/03/2007  
Date printed: 10/15/2008

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name :** ARREST 75W

**Chemical name:** Agricultural turf fungicide

**Use of substance/preparation:** Fungicide

**Supplier:** Chemtura Canada Co./Cie  
25 ERB STREET  
Elmira, Ontario N3B 3A3 Canada

**Manufacturer:** Chemtura USA Corporation  
199 Benson Road  
Middlebury, CT 06749 USA

**Prepared by :** CHEMTURA Product Safety Department 866-430-2775 Date of Issue: 01/03/2007

**Emergency telephone number:** 866-744-3060 (Canada)  
CANUTEC (24 hours) 613-996-6666  
For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

**Environmental, Health and Safety Department:** 866-430-2775

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	% BY WEIGHT
Thiram CAS# 137-26-8	50
Carboxin CAS# 5234-68-4	20
Oxycarboxin CAS# 5259-88-1	5
Free Silica (Quartz) CAS# 14808-60-7	< 0.5

#### WHMIS CLASSIFICATION

This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

#### CPR Compliance

This product has been classified with the hazard criteria of the CPR, and the MSDS contains all the information required by CPR.



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**3. HAZARDS IDENTIFICATION**

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**EMERGENCY OVERVIEW**

**CAUTION!**

**MAY CAUSE EYE AND SKIN IRRITATION.**

**MAY CAUSE SKIN SENSITIZATION.**

**EXPOSURE CAN RESULT IN AN ADVERSE REACTION WITH THE CONSUMPTION OF ALCOHOLIC BEVERAGES.**

**SEE SECTION 11 FOR INFORMATION ON CHRONIC HEALTH EFFECTS.**

**AVOID DISPERSION OF DUST IN AIR TO REDUCE POTENTIAL FOR DUST IGNITION/EXPLOSIONS.**

**CONSUMPTION OF ALCOHOL SHOULD BE AVOIDED BEFORE AND AFTER EXPOSURE.**

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**4. FIRST AID MEASURES**

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**Swallowing**

If patient is fully conscious, give two glasses of water. Induce vomiting. Obtain medical attention immediately. Do not give milk, oily products, fat or alcohol. Do not give anything by mouth to an unconscious person.

**Inhalation**

Remove to fresh air. Give artificial respiration if not breathing. Obtain medical attention.

**Skin contact**

Wash skin with soap and water. Remove contaminated clothing. Wash clothing before re-use. Obtain medical attention if irritation persists.

**Eye contact**

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention.

**Notes to physician**

ROUTES OF ENTRY:

Skin

Eyes

Ingestion

Inhalation

If Thiram is absorbed into the body it may affect the liver, kidneys, and central nervous system. Symptoms may include headache, insomnia, and nervous disorders. In severe cases symptoms may include kidney pain, dizziness, loss of memory and tremors. Alcohol intolerance may result on exposure; symptoms include flushing of the face and neck, followed by rapid heart beat, nausea, vomiting, headache and low blood pressure.

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**5. FIRE-FIGHTING MEASURES**

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**Flash point:** > 110 °C

**Hazardous combustion products**

Burning can produce the following combustion products:

Oxides of carbon.

Oxides of nitrogen.

Oxides of sulfur.

**Special fire fighting procedures**

Do not discharge extinguishing waters into streams, rivers and lakes.

**Special protective equipment for firefighters**

Body covering protective clothing, full "turn-out" gear.

Self-contained breathing apparatus.

**Extinguishing media**

**Suitable:**

**Large fires:**

- alcohol-type foam or universal-type foams

**Small fires:**

- CO2

- dry chemical

- water spray

**Unsuitable:**

- water jets



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### Unusual fire and explosion hazards

Avoid dispersion of dust in air to reduce potential for dust ignition/explosions.

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## 6. ACCIDENTAL RELEASE MEASURES

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### Personal precautions

Wear suitable protective equipment., Avoid contact with eyes and skin.

### Environmental precautions

Prevent from entering sewer system, surface water or soil.

### Methods for cleaning up

Sweep up and collect in a suitable container for disposal.

Avoid dust formation.

Observe government regulations.

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## 7. HANDLING AND STORAGE

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### HANDLING

#### Handling precautions

Do not get in eyes, on skin, on clothing., Do not swallow., Avoid dispersion of dust to reduce fire and explosion potential., Do not eat, drink or smoke when handling.

#### Other precautions

If fine dust is formed from this product, avoid dispersion of dust in air to reduce fire and explosion hazard. Consumption of alcohol should be avoided before and after exposure. Do not store near food, feed or fertilizers. Do not contaminate ponds, lakes, streams, or any source of water.

### STORAGE

#### Storage requirements

Store in a cool, dry place., Store in closed original drums.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### EXPOSURE LIMIT VALUES

Consult local authorities for acceptable provincial values.

<u>Component</u>	<u>Country</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Thiram	USA	TLV-TWA, ACGIH	1 mg/m <sup>3</sup>	
Free Silica (Quartz)		ACGIH - respirable dust	0.05 mg/m <sup>3</sup>	Toxicity to reproduction/fertility: CANCER HAZARD A2
		OSHA - respirable dust	0.1 mg/m <sup>3</sup>	TWA
		OSHA - total dust	0.3 mg/m <sup>3</sup>	TWA

No other exposure limits have been established

### PERSONAL PROTECTION

#### Respiratory protection

In the absence of engineering controls sufficient to maintain airborne concentrations below recommended occupational exposure limit values, appropriate respiratory protection should be utilized., The determination of appropriate respiratory protection is best performed, on a case by case basis, taking into consideration the exposure conditions of the particular operation., Use an approved full-face air-purifying respirator. For emergency and other conditions where the exposure limit may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus., The respirator manufacturer should be consulted to ensure that the air-purifying cartridges utilized will provide adequate protection for the exposure conditions and period of wear concerned.

#### Hand protection / protective gloves

Chemical resistant protective gloves



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### Eye protection

Safety glasses with side shields.

### Skin protection

Wear protective clothing, such as long sleeves to minimize skin contact.

### ENGINEERING CONTROLS

#### Ventilation

Apply local exhaust ventilation at points of dust generation.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### APPEARANCE

Physical state	Solid
Color	White
Odor	Faint - musty
Odor threshold	Not available

### OTHER PROPERTIES

Boiling point	Not applicable
Melting point	Not available
Solidification	Not available
pH	Not available
Specific gravity (H <sub>2</sub> O=1)	Not available
Density	Not available
Vapor pressure	
Solubility in water	Not available
Solubility in organic solvents	No data available.
Partitioning coefficient	Not available
Flash point	> 110 °C Method: Setaflash closed cup ASTM D 3828
Autoignition temperature	Not available
Upper explosion limits	Not available
Lower explosion limits	Not available
Percent volatiles	Not available

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## 10. STABILITY AND REACTIVITY

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Stability: Stable under normal conditions.

### Stability - Conditions to avoid:

Avoid dust formation.

### Incompatible materials:

Strong oxidizing agents.



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Alkalis.  
Acids.

**Hazardous reactions:** Contact with strong acid can produce the following:  
Carbon disulfide  
Hydrogen disulfide

**Hazardous combustion products:**  
Burning can produce the following combustion products:  
Oxides of carbon.  
Oxides of nitrogen.  
Oxides of sulfur.

**Hazardous polymerization:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<u>Component data</u> Thiram Acute toxicity - Swallowing:	LD50 - Rat Result: 2,600 mg/kg
<u>Component data</u> Carboxin Acute toxicity - Swallowing:	LD50 - Rat Result: 2,900 mg/kg
<u>Component data</u> Carboxin Chronic toxicity - Swallowing:	NOEL - Rat Result: 5.5 mg/kg Exposure time: 90 d
<u>Component data</u> Oxycarboxin Chronic toxicity - Swallowing:	- Dog Remark: No evidence of harmful effects from available information.
<u>Component data</u> Thiram Acute toxicity - Skin absorption:	LD50 - Rat Result: > 2,000 mg/kg
<u>Component data</u> Carboxin Acute toxicity - Skin absorption:	LD50 - Rabbit Result: > 4,000 mg/kg
<u>Component data</u> Carboxin Chronic toxicity - Skin absorption:	NOEL - Rats Result: 30 mg/kg Exposure time: 28 d
<u>Component data</u> Thiram Acute toxicity - Inhalation:	LC50 - Rat Result: 3.46 mg/l Exposure time: 4 h Remark: Aerosol
<u>Component data</u> Thiram Acute toxicity - Inhalation:	LC50 - Rabbit Result: 4.42 mg/l Exposure time: 4 h
<u>Component data</u> Carboxin Acute toxicity - Inhalation:	LC50 - Rat Result: > 4.7 mg/l Exposure time: 4 h
<u>Component data</u>	Species: Rabbit



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Thiram Skin irritation - Skin contact:	Remark: Not irritant
<u>Component data</u> Carboxin Skin irritation - Skin contact:	Species: Rabbit Result: Not irritating
<u>Component data</u> Thiram Eye irritation - Eye contact:	Species: Rabbit Classification: Irritant
<u>Component data</u> Carboxin Eye irritation - Eye contact:	Species: Rabbit Result: Mild irritation
<u>Component data</u> Thiram Sensitization:	Species: Human Result: Evidence of sensitization.
<u>Component data</u> Carboxin Sensitization:	Species: Guinea pigs Result: Non sensitizing. Method: Bühler-Test
<u>Component data</u> Carboxin Sensitization:	Species: Guinea pigs Result: sensitizing Classification: not sensitizing Method: Magnusson-Kligmann-Test

### MUTAGENICITY:

Component (Thiram): Ames-test: no mutagenic effect

### MUTAGENICITY:

Component (Oxycarboxin): This material was positive in a mouse lymphoma mutagenicity assay.

### CARCINOGENICITY

Component (Thiram): No evidence of carcinogenic activity

### DEVELOPMENT TOXICITY/TERATOGENICITY

<u>Component data</u> Thiram Development toxicity/Teratogenicity:	Species: Rat NOAEL maternity: 7.5 mg/kg
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## 12. ECOLOGICAL INFORMATION

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Biodegradation: Value: 100 %  
Remark: Readily biodegradable.

<u>Component ecotoxicology</u> Thiram <u>Acute toxicity fish:</u>	LC50 - Rainbow trout (Oncorhynchus mykiss) Result: 0.046 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Thiram <u>Acute toxicity fish:</u>	LC50 - Rainbow trout (Oncorhynchus mykiss) Result: 0.128 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u>	LC50 - Bluegill (Lepomis macrochirus)



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Thiram <u>Acute toxicity fish:</u>	Result: 0.0445 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Thiram <u>Acute toxicity to aquatic invertebrates:</u>	EC50 - Water flea (Daphnia magna) Result: 0.011 mg/l Exposure time: 48 h
<u>Component ecotoxicology</u> Thiram <u>Acute toxicity to aquatic invertebrates:</u>	- Water flea (Daphnia magna) Result: 0.021 ppm Exposure time: 48 h

### 13. DISPOSAL CONSIDERATIONS

**General:** Avoid discharge to sewers and natural waters., Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

### 14. TRANSPORT INFORMATION

#### TDG - Canada

Not regulated by ground or rail.

**Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiram)  
**Class:** 9  
**UN ID #:** UN 3077  
**Packing group:** III  
**Technical description** Thiram

#### IMDG Classification

**Proper shipping name:** Environmentally hazardous substance, solid, n.o.s.  
**Class:** 9  
**Subsidiary risk:** marine pollutant  
**UN ID #:** UN 3077  
**Packing group:** III  
**Technical description** (Thiram)

#### ICAO Classification

**Proper shipping name:** Environmentally hazardous substance, solid, n.o.s.  
**Class:** 9  
**UN ID #:** UN 3077  
**Packing group:** III  
**Technical description** (Thiram)

Only regulated by air Into, Out of or Within the United States in containers 20 lbs (9.1 kg) or greater.

### 15. REGULATORY INFORMATION

#### WHMIS CLASSIFICATION

This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS supplier labeling and MSDS requirements. Please read entire MSDS and product label for safety precautions.

#### CPR Compliance

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### CHEMICAL INVENTORY

Canada: All substances in this product are exempt from the DSL as this product is registered under the Pest Control Products Act., PCP# 13431

### EPA

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## 16. OTHER INFORMATION

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### FURTHER INFORMATION

MAY BE ON THE INVENTORY LIST BUT NOT NECESSARILY REGISTERED, (Korea, China, New Zealand) CONSULT REGULATORY SPECIALIST.

STP	Standard temperature and pressure
W/W	Weight/Weight

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