

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
 Product name : CAPTEC 4L® FUNGICIDE  
 Other means of identification : EPA Reg. No. 66330-239

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Fungicide

#### 1.3. Details of the supplier of the safety data sheet

Arysta LifeScience North America LLC  
 15401 Weston Parkway, Suite 150  
 Cary, NC 27513 - USA

#### 1.4. Emergency telephone number

Emergency number : Exposure Calls (PROSAR): +1-866-303-6952 or +1-651-603-3432 (international)  
 Spill Calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Acute Tox. 4 (Inhalation:dust,mist) H332  
 Eye Dam. 1 H318  
 Carc. 2 H351

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H318 - Causes serious eye damage  
 H332 - Harmful if inhaled  
 H351 - Suspected of causing cancer

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 vapours, mist  
 P271 - Use only outdoors or in a well-ventilated area  
 P280 - Wear eye protection, protective gloves  
 P304+P340 - If inhaled: Remove person to fresh air and keep 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  
 P405 - Store locked up  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 3.2. Mixture

Exact concentrations withheld as trade secret.

Name	Product identifier	%	GHS-US classification
Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide	(CAS No) 133-06-2	30 – 40	Acute Tox. 3 (Inhalation:dust,mist), H331 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 1, H400
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	(CAS No) 68425-94-5	0.5 – 2	Skin Irrit. 2, H315 Eye Irrit. 2A, H319

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 medical advice is needed, have product container or label at hand.
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash with plenty of soap and water.
- First-aid measures after eye contact : Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Drink plenty of water. Get medical advice/attention.

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

- Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Chronic symptoms : May cause cancer.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Foam. Halons. Dry powder. Water fog.
- Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Burning produces irritating, toxic and noxious fumes.
- Reactivity : No dangerous reactions known.

### 5.3. Advice for firefighters

- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapour and mist. Keep upwind.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Wear suitable protective clothing and gloves.
- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Wear suitable protective clothing and gloves.
- Emergency procedures : Ventilate area. Stop leak if safe to do so.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Prevent dispersion. Notify authorities if product enters sewers or public waters.

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### 6.3. Methods and material for containment and cleaning up

- For containment : Do not allow minor leaks or spills to accumulate on walking surfaces. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal.

### 6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid contact with skin, eyes and clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist, vapours.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Do not store near food, foodstuffs, drugs, or potable water supplies. Keep container closed when not in use.
- Incompatible products : Alkalis and caustic products.
- Prohibitions on mixed storage : Incompatible materials.
- Storage area : Store in dry, cool, well-ventilated area.

### 7.3. Specific end use(s)

Fungicide.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

CAPTEC 4L® FUNGICIDE		
ACGIH	Not applicable	
OSHA	Not applicable	
Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
ACGIH	Remark (ACGIH)	Skin irr; DSEN; A3
OSHA	Not applicable	
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts (68425-94-5)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> respirable dust
OSHA	Not applicable	

### 8.2. Exposure controls

- Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing. Use only outdoors or in a well-ventilated area.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Use rubber gloves.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Viscous liquid
- Colour : Off-white cream
- Odour : Odourless
- Odour threshold : No data available
- pH : 5.5 - 8.5 (1% pH)
- Melting point : No data available

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Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 10.24 lb/gal
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 800 - 1600 cP

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Caustic products.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : hydrogen chloride. Carbonyl sulfide. Carbon disulfide. Thiophosgene.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure	: Inhalation; Skin and eye contact
Acute toxicity	: Inhalation:dust,mist: Harmful if inhaled.

CAPTEC 4L <sup>®</sup> FUNGICIDE	
LD50 oral rat	> 4000 mg/kg female > 5040 mg/kg male
LD50 dermal rabbit	> 2010 mg/kg
LC50 inhalation rat (mg/l)	> 1.5 mg/l/4h
ATE US (dust,mist)	1.500 mg/l/4h
Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	0.27 - 0.67 mg/l/4h
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts (68425-94-5)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

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Skin corrosion/irritation	: Not classified (Slightly irritating to skin)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified. (No sensitizing reaction was observed for guinea pigs)
Germ cell mutagenicity	: Not classified
	In vivo, Captan has been examined in many systems and the overall conclusion is of no significant genotoxic activity. Genotoxicity has been shown in vitro primarily for prokaryotic and non-mammalian eukaryotic cells when cellular protective mechanisms (GSH, etc.) are absent.
Carcinogenicity	: Suspected of causing cancer. Likely to be carcinogenic to humans following prolonged, high-level exposures causing cytotoxicity and regenerative cell hyperplasia in the proximal region of the small intestine (oral exposure) or the respiratory tract (inhalation exposure), but not likely to be a human carcinogen at dose levels that do not cause cytotoxicity and regenerative cell hyperplasia.

### Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)

IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified In a 3-generation rat study, Captan Technical had no effects on fertility, gestation length or litter size. Pup survival was reduced at doses 250 mg/kg/day. A 1-generation study showed decreased pup (rat) weights at 12.5 mg/kg/day.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified Captan Technical is not carcinogenic to rats or dogs following chronic dietary exposure. In mice, chronic dietary exposure to Captan Technical produced increased tumors of the small intestine, but only at high doses. The tumors are a result of chemical irritation of the intestine following repeated high doses, and not a mutagenic effect. The NOEL for tumor formation was 400 ppm Captan technical in diet.
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Chronic symptoms	: May cause cancer.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

### Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)

LC50 fish 1	50 µg/l 96 h Rainbow trout
LC50 other aquatic organisms 1	1.6 mg/l green algae
EC50 Daphnia 1	4.7 mg/l 48 h
LC50 fish 2	240 µg/l 96 h Mirror carp

### 12.2. Persistence and degradability

### Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)

Biodegradation	DT50 of < 1 day in aerobic and anaerobic soil
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### 12.3. Bioaccumulative potential

### Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)

Bioaccumulative potential	Not expected to bioaccumulate.
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### 12.4. Mobility in soil

### Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)

Ecology - soil	Non-mobile.
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### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Do not dispose in household garbage.
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment. Dispose of container in a licensed facility.

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### SECTION 14: Transport information

#### Department of Transportation (DOT)

RQ = 28.51 lbs

In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (captan), 9, III  
UN-No.(DOT) : UN3082  
Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (captan)  
Transport hazard class(es) (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Packing group (DOT) : III - Minor Danger

#### Additional information

Other information : No supplementary information available.

#### ADR

Transport document description : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (captan), 9, III, (E)  
Packing group (ADR) : III  
Class (ADR) : 9 - Miscellaneous dangerous substances and articles  
Hazard identification number (Kemler No.) : 90  
Classification code (ADR) : M6  
Danger labels (ADR) : 9 - Miscellaneous dangerous substances and articles



Orange plates : An orange rectangular plate with a black border, divided into two horizontal sections. The top section contains the number '90' and the bottom section contains the number '3082'.

Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 5l  
Excepted quantities (ADR) : E1

#### Transport by sea

UN-No. (IMDG) : 3082  
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (captan)  
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles  
Packing group (IMDG) : III - substances presenting low danger  
Marine pollutant : Yes



#### Air transport

UN-No.(IATA) : 3082  
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (captan)  
Class (IATA) : 9 - Miscellaneous Dangerous Goods  
Packing group (IATA) : III - Minor Danger

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Marine pollutant

: Yes



### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)**

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

RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
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**Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts (68425-94-5)**

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

#### 15.2. International regulations

##### CANADA

**Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)**

Listed on the Canadian DSL (Domestic Substances List) inventory.

**Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts (68425-94-5)**

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### EU-Regulations

**Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)**

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts (68425-94-5)**

Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Inhalation:dust,mist) H332  
Eye Dam. 1 H318  
Carc. 2 H351  
Aquatic Acute 1 H400  
Full text of H-phrases: see section 16

##### National regulations

No additional information available

#### 15.3. US State regulations

**Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)**

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	300

**Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)**

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

#### 15.4. US EPA – FIFRA Regulations

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.

Signal word (FIFRA)

: DANGER.

Hazard statements (FIFRA)

: Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through the skin or inhaled. Do not get in eyes or on clothing. Avoid breathing spray mist.

Environmental hazards

: This pesticide is toxic to fish. Do not apply directly to water, 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 cleaning equipment or disposing of equipment washwaters or rinsate.

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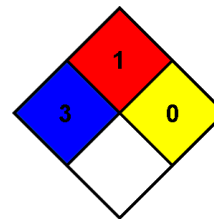
### SECTION 16: Other information

- Indication of changes : Original Document.
- Data sources : ACGIH (American Conference of Government Industrial Hygienists).  
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.  
Kristen Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.  
NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.  
OSHA 29CFR 1910.1200 Hazard Communication Standard.  
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.
- Abbreviations and acronyms : ATE: Acute Toxicity Estimate.  
CAS (Chemical Abstracts Service) number.  
CLP: Classification, Labelling, Packaging.  
EC50: Environmental Concentration associated with a response by 50% of the test population.  
LD50: Lethal Dose for 50% of the test population.  
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).  
NOEC: No Observable Effect Concentration.  
OSHA: Occupational Safety & Health Administration.  
TSCA: Toxic Substances Control Act.
- Other information : None.

#### Full text of H-phrases:

Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H351	Suspected of causing cancer
H400	Very toxic to aquatic life

- NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



SDS US (GHS HazCom 2012)

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*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*