

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

1.1. Product identifier

Product form : Mixture
Product name : CAPTAN 50 WP
Other means of identification : EPA Reg. No. 66330-234

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

Arysta LifeScience
400 Michener Road, Unit 2
Guelph, Ontario
N1K 1E4

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 classification

Acute Tox. 4 (Inhalation:dust,mist) H332
Eye Dam. 1 H318
Carc. 2 H351
STOT RE 2 H373

Full text of H-statements: see section 16

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS05

GHS07

GHS08

Signal word (GHS) :

Danger

Hazard statements (GHS) :

H318 - Causes serious eye damage
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS) :

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust
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
P314 - Get medical advice/attention if you feel unwell
P405 - Store locked up
P501 - Dispose of contents/container to an authorised waste collection point

2.3. Other hazards

No additional information available

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according to Canada Hazardous Product Regulation (HPR)

2.4. Unknown acute toxicity (GHS)

- 1 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
- 1.98 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
- 1.14 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% (w/w)	GHS classification
Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (Main constituent)	(CAS No) 133-06-2	48.92 - 49.24	Acute Tox. 3 (Inhalation:dust,mist), H331 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 1, H400
Lignosulfonic acid, sodium salt	(CAS No) 8061-51-6	1.5	STOT RE 2, H373

Full text of H-statements: 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 : Rinse cautiously with water for several minutes. 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 : May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.
- Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
- Symptoms/injuries after skin contact : Repeated or prolonged contact may cause slight irritation to the skin.
- Symptoms/injuries after eye contact : Causes serious eye damage.

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 creating or spreading dust. Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Dust impervious gloves. Do not breathe dust.
- Emergency procedures : Evacuate unnecessary personnel. Stop leak, if possible without risk.

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6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Dust impervious gloves. Avoid breathing dust.
Emergency procedures : Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Do not discharge into drains or the environment. Prevent dispersion. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Avoid generating dust. Stop the flow of material, if this is without risk.
Methods for cleaning up : Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

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 breathing dust. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing.
Hygiene measures : Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- 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.
Heat and ignition sources : Keep away from heat, sparks and flame.
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

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ACGIH	Not applicable	
OSHA	Not applicable	
Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
ACGIH	Remark (ACGIH)	Skin irr; DSEN; A3
OSHA	Not applicable	
Lignosulfonic acid, sodium salt (8061-51-6)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (Inhalable particulates not otherwise specified); 3 mg/m ³ (Respirable particulates not otherwise specified)
OSHA	Not applicable	

8.2. Exposure controls

- Appropriate engineering controls : Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Use only outdoors or in a well-ventilated area.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : Wear dust impervious gloves.
Eye protection : Chemical goggles or safety glasses.
Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear appropriate mask.
Environmental exposure controls : Prevent leakage or spillage.
Other information : Do not eat, drink or smoke when using this product.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder
Colour	: Off-white to tan
Odour	: Slight
Odour threshold	: No data available
pH	: 5 (1% solution)
Melting point	: No data available
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	: 30 - 35 lb/cubic ft
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	: No data available

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.

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LD50 oral rat	> 5050 mg/kg
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LD50 dermal rat	> 5050 mg/kg
LC50 inhalation rat (mg/l)	> 2.25 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
ATE US (vapours)	0.270 mg/l/4h
ATE US (dust,mist)	0.270 mg/l/4h

Lignosulfonic acid, sodium salt (8061-51-6)	
LD50 oral rat	> 12000 mg/kg

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)	: May cause damage to organs through prolonged or repeated exposure. 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 skin contact	: Repeated or prolonged contact may cause slight irritation to the skin.
Symptoms/injuries after eye contact	: Causes serious eye damage.

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
Lignosulfonic acid, sodium salt (8061-51-6)	
LC50 fish 1	361 ppm 96h Pimephales promelas

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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Lignosulfonic acid, sodium salt (8061-51-6)	
Persistence and degradability	Biodegrades slowly.
Biochemical oxygen demand (BOD)	0.021 g O ₂ /g substance (5 day/day); 0.043 g O ₂ /g (30 day/days)

12.3. Bioaccumulative potential

Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)	
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

Captan: N-[(trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (133-06-2)	
Ecology - soil	Non-mobile.

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

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.
Additional information : Clean up even minor leaks or spills if possible without unnecessary risk.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

RQ = 20.31 lbs

Transport document description : RQ UN3077 Environmentally hazardous substances, solid, n.o.s. (captan), 9, III

UN-No.(DOT) : UN3077

Proper Shipping Name (DOT) : Environmentally hazardous substances, solid, n.o.s. (captan)
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 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 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) : M7

Danger labels (ADR) : 9 - Miscellaneous dangerous substances and articles



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Orange plates : 

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

Transport by sea

UN-No. (IMDG) : 3077
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 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) : 3077
Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (captan)
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger
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
Lignosulfonic acid, sodium salt (8061-51-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).

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.	
Lignosulfonic acid, sodium salt (8061-51-6)	
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)	
Lignosulfonic acid, sodium salt (8061-51-6)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

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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-statements: see section 16

National regulations

Lignosulfonic acid, sodium salt (8061-51-6)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the AICS (Australian Inventory of Chemical Substances)
Not listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

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

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. Krister 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.

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Full text of H-statements:

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
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
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

NFPA health hazard

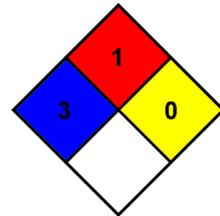
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

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