

# SAFETY DATA SHEET

## ENHANCE®

Version      Revision Date:      MSDS Number:      Country: US  
1.10          10/08/2015          400000004212      Language: EN

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### SECTION 1. IDENTIFICATION

Product name                      : ENHANCE®  
Product code                        : 400000004212

#### Manufacturer or supplier's details

Company:                              MacDermid Agricultural Solutions, Inc  
   245 Freight St  
   Waterbury, CT  
   United States of America  
   06702  
   Telephone : +1 800 423 8569

Prepared by                              sds.request@arysta.com

Further information for the safety data sheet :  
sds.request@arysta.com

#### 1.4 Emergency telephone number

Emergency telephone number:      Agriphar Crop Solutions: +1 800 423 8569(24 hours) 800-424-9300  
   For additional emergency telephone numbers see section 16 of the  
   Safety Data Sheet.

#### Recommended use of the chemical and restrictions on use

Recommended use                      : Seed treatment  
Restrictions on use                     : Agriculture, For professional users only.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Inhalation)          : Category 4  
Serious eye damage                    : Category 1  
Skin sensitisation                      : Category 1  
Carcinogenicity                        : Category 1A

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Specific target organ toxicity : Category 2  
- repeated exposure (Oral)

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 2

### GHS Label element

Hazard pictograms : 

Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
H350 May cause cancer.  
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
P281 Use personal protective equipment as required.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 + P312 IF INHALED: 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.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P391 Collect spillage.  
**Storage:**  
P405 Store locked up.

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### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Mixture

### Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	14807-96-6	>= 30 - < 50
carboxin	5234-68-4	20
captan	133-06-2	20
graphite	7782-42-5	>= 10 - < 20
Silica gel	63231-67-4	>= 1 - < 5

## SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.  
If not breathing, give artificial respiration.  
Call a POISON CENTER or doctor/ physician.
- In case of skin contact : Remove contaminated clothing and shoes.  
Wash off immediately with plenty of water for at least 15 minutes.  
Call a POISON CENTER or doctor/ physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.  
Call a POISON CENTER or doctor/ physician.
- If swallowed : Call a physician or poison control centre immediately.  
Have person sip a glass of water if able to swallow.  
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Eye irritation  
irritant effects  
Symptoms may be delayed.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Harmful if inhaled.

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May cause cancer.  
May cause damage to organs through prolonged or repeated exposure.

Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

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### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - large fires  
Alcohol-resistant foam  
(on small fires)  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Water spray
- Unsuitable extinguishing media : Water spray jet
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : 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 (EN 133)
- 

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate unnecessary personnel.  
Avoid all contact with material.  
Wear suitable protective equipment.
- Environmental precautions : Prevent leaks and prevent soil / water pollution caused by leaks.
- Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal.  
Avoid dust formation.  
In accordance with local and national regulations.
- 

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Wear suitable protective equipment.  
Warn personnel about the dangers of the product.  
Keep container tightly closed.  
Avoid formation of dust and aerosols.
- Conditions for safe storage : Keep in a dry, cool place.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	14807-96-6	TWA	0.1 fibre/cm <sup>3</sup>	ACGIH
		TWA (Respirable fraction)	2 mg/m <sup>3</sup>	ACGIH
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Respirable)	2 mg/m <sup>3</sup>	NIOSH REL
		TWA (respirable dust fraction)	2 mg/m <sup>3</sup>	OSHA P0
captan	133-06-2	TWA (Inhalable fraction)	5 mg/m <sup>3</sup>	ACGIH
		TWA	5 mg/m <sup>3</sup>	OSHA P0
		TWA	5 mg/m <sup>3</sup>	NIOSH REL
graphite	7782-42-5	TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Respirable fraction)	2 mg/m <sup>3</sup>	ACGIH
		TWA (Respirable)	2.5 mg/m <sup>3</sup>	NIOSH REL
		TWA (Dust)	15 Million particles per cubic foot	OSHA Z-3
		TWA (Total dust)	10 mg/m <sup>3</sup>	OSHA P0
		TWA (respirable dust fraction)	5 mg/m <sup>3</sup>	OSHA P0
		TWA (respirable dust fraction)	2.5 mg/m <sup>3</sup>	OSHA P0
Silica gel	63231-67-4	TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Dust)	80 mg/m <sup>3</sup> / %SiO <sub>2</sub>	OSHA Z-3

#### Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Impervious gloves

Eye protection : Face-shield

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Skin and body protection : Lightweight protective clothing

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : grey

Odour : pungent

Odour Threshold : No data available

pH : Not applicable

: No data available

Boiling point/boiling range : Not applicable

Flash point : Not applicable

Evaporation rate : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : No data available

Bulk density : 560 kg/m<sup>3</sup>

Solubility(ies)

    Water solubility : insoluble

    Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

    Viscosity, dynamic : Not applicable

    Viscosity, kinematic : Not applicable

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

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### SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Incompatible materials : Oxidizing agents  
Strong acids and strong bases

Hazardous decomposition products : Burning produces noxious and toxic fumes.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Eye contact  
Skin contact

#### Acute toxicity

##### Product:

Acute oral toxicity : (Rat): > 5,000 mg/kg  
Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : (Rat, male): 0.5 - 2.04 mg/l  
(Rat, female): > 2.04 mg/l  
Acute toxicity estimate: 2.55 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : (Rat): > 5,000 mg/kg

##### Components:

##### **carboxin:**

Acute oral toxicity : LD50 (Rat, male): 2,588 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.7 mg/l  
Exposure time: 4 h  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 4,000 mg/kg

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### **captan:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 1.12 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

### **Skin corrosion/irritation**

#### **Product:**

Species: Rabbit  
Result: No skin irritation

#### **Components:**

##### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Species: Rabbit  
Result: No skin irritation

##### **carboxin:**

Species: Rabbit  
Result: No skin irritation

##### **captan:**

Species: Rabbit  
Result: Skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Species: Rabbit  
Result: Severe irritation  
Remarks: Risk of serious damage to eyes.

#### **Components:**

##### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Species: Rabbit  
Result: No eye irritation

##### **carboxin:**

Species: Rabbit  
Result: slight irritation  
Assessment: No eye irritation

##### **captan:**

Species: Rabbit  
Result: Eye irritation



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### Respiratory or skin sensitisation

#### Product:

Result: May cause sensitisation by skin contact.

#### Components:

##### **carboxin:**

Species: Guinea pig  
Assessment: May cause sensitisation by skin contact.  
Method: Magnusson-Kligmann-Test  
Result: positive  
GLP: yes

##### **captan:**

Species: Guinea pig  
Assessment: May cause sensitisation by skin contact.  
Result: May cause sensitisation by skin contact.

### Germ cell mutagenicity

#### Components:

##### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Genotoxicity in vitro : Test Type: Unscheduled DNA synthesis (UDS)  
Result: negative  
GLP: yes

: Test Type: Ames test  
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Rat  
Application Route: Oral  
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

##### **carboxin:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation test  
Species: Salmonella typhimurium  
Result: negative

: Test Type: Chromosome aberration test in vitro  
Species: Chinese hamster ovary cells  
Result: Negative without activation, positive with activation

: Test Type: In Vitro mammalian Cell Gene Mutation Test  
Species: Chinese hamster ovary cells  
Result: negative

: Test Type: Unscheduled DNA synthesis (UDS)  
Species: rat hepatocytes  
Result: positive

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Genotoxicity in vivo : Test Type: Mammalian bone marrow chromosome aberration test  
Species: Sprague-Dawley rat bone marrow cells  
Result: negative

Test Type: Mammalian bone marrow chromosome aberration test  
Species: Sprague-Dawley rat bone marrow cells  
Result: negative

Test Type: Unscheduled DNA synthesis (UDS)  
Species: Male Sprague-Dawley rat liver hepatocyte cells  
Result: negative

Germ cell mutagenicity - Assessment : negative

### Carcinogenicity

#### Components:

#### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Species: Rat

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

#### **carboxin:**

Species: Rat, (male)

Application Route: Oral

NOAEL: No observed adverse effect level: 0.82 mg/kg bw/day

Carcinogenicity - Assessment : negative

### IARC

Group 1: Carcinogenic to humans

Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>) 14807-96-6

### OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### NTP

Known to be human carcinogen

Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>) 14807-96-6

### Reproductive toxicity

#### Components:

#### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Reproductive toxicity - Assessment : No effects on or via lactation

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essment

### carboxin:

Effects on fertility : General Toxicity - Parent: No observed adverse effect level: 1 mg/kg bw/day  
General Toxicity F1: No observed adverse effect level F1: 20 mg/kg bw/day  
Early Embryonic Development: No observed adverse effect level F2: 10 mg/kg bw/day

Effects on foetal development

: Species: Rat  
General Toxicity Maternal: No observed adverse effect level: 10 mg/kg bw/day  
Teratogenicity: No observed adverse effect level: 90 mg/kg bw/day

Species: Rabbit  
General Toxicity Maternal: No observed adverse effect level: 75 mg/kg bw/day  
Teratogenicity: No observed adverse effect level: 75 mg/kg bw/day

Reproductive toxicity - Assessment

: negative  
negative

### STOT - single exposure

#### Product:

Remarks: No data available

### STOT - repeated exposure

#### Components:

##### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Exposure routes: Inhalation

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

##### **carboxin:**

Species: Rat, male  
NOAEL: 30 mg/kg  
Application Route: Dermal  
Exposure time: 28 d  
GLP: yes  
Target Organs: Kidney

Species: Rat, male  
NOAEL: 5.5 mg/kg  
Application Route: Oral  
Exposure time: 90 d

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GLP: yes  
Target Organs: Kidney

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### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Components:

##### **Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>):**

Toxicity to fish : LC50 (Danio rerio (Zebra fish)): > 5,000 mg/l  
Exposure time: 24 h  
Test Type: semi-static test

##### **carboxin:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.3 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 57 mg/l  
Exposure time: 48 h  
Test Type: flow-through test  
GLP: yes

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.48 mg/l  
Exposure time: 5 d  
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC (Cyprinus carpio (Carp)): 0.32 mg/l  
Exposure time: 21 d  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.32 mg/l  
Exposure time: 17 d  
GLP: yes

#### Persistence and degradability

##### Components:

##### **carboxin:**

Biodegradability : Result: Not readily biodegradable.

#### Bioaccumulative potential

##### Components:

##### **carboxin:**

Partition coefficient: n-octanol/water : log Pow: 2.3

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### Mobility in soil

No data available

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Toxic to aquatic organisms.

#### Components:

##### **carboxin:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : In accordance with local and national regulations.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulation

#### **UNRTDG**

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (carboxin, captan)  
Class : 9  
Packing group : III  
Labels : 9

#### **IATA-DGR**

UN/ID No. : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., Environmentally hazardous substance, solid, n.o.s. (carboxin, captan)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 956

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Packing instruction (passenger aircraft) : 956

### IMDG-Code

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(carboxin, captan)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### 49 CFR

UN/ID/NA number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.  
(carboxin, captan)  
Class : 9  
Packing group : III  
Labels : CLASS 9  
ERG Code : 171  
Marine pollutant : yes(carboxin)  
Remarks : RQ applies  
Not regulated by DOT and TDG if shipped or transported in packaging < 22.7 KG (50 LB) by road and/or rail. Please refer to 49 CFR for any details.

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Component RQ (lbs)
captan	133-06-2	10	51

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SSARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

captan	133-06-2	19.6236 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

captan	133-06-2	19.6236 %
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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

captan	133-06-2	19.6236 %
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This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

### California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	14807-96-6
captan	133-06-2

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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### FIFRA Hazard Information:

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 pesticide label also includes other important information, including directions for use.

The hazard information required on the pesticide label is reproduced below.

### DANGER

Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin or inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing dust. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

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This chemical is toxic to fish. Do not contaminate water when disposing of equipment washwaters or rinsate or by disposal of wastes.

This product may have effects on federally listed threatened or endangered species or their critical habitat in some counties. It is a violation of federal law to kill, harm or harass listed animal species without authorization. To limit the potential for such impacts when using this product, consult and follow the instructions provided in the EPA Endangered Species Bulletin for the County or Parish in which you are applying the seed. To determine whether your County or Parish has a Bulletin consult <http://www.epa.gov/espp> before each season's use of this product.

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### SECTION 16. OTHER INFORMATION

#### Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods



# SAFETY DATA SHEET

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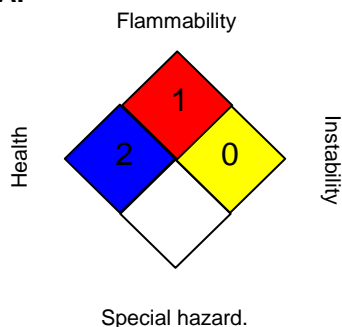
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### Further information

#### NFPA:



#### HMIS III:

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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### Carechem24 International Worldwide Coverage

#### Emergency Phone Number

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	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347
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	India	+65 3158 1198 0800 100 7479

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	Mexico	+52 555 004 8763
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