SAFETY DATA SHEET

Willowood Abamectin 0.7SC

Section 1. Identification

GHS product identifier

: Willowood Abamectin 0.7SC

Product code

Not available.

Other means of identification

: Acaricide, Miticide, and Nematicide Insecticide.

Mixture, typically not less than 80% Avermectin B1a and not more than 20% Avermectin

B₁b.

EPA Registration Number EPA Signal Word

: 87290-36 : WARNING

Product type

: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

: Insecticide.

Supplier's details

: Willowood, LLC

1887 Whitney Mesa Drive #9740, Henderson, NV 89014-2069

Tel: 866 396 0465

cs@genericcropscience.com

Emergency telephone number (with hours of operation)

: CHEMTREC. U.S.: 1-800-424-9300 International: +1-703-527-3887

24/7 Health Emergencies: Call 800-858-7378 (National Pesticide Information Center)

Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (inhalation) - Category 2

TOXIC TO REPRODUCTION (Unborn child) - Category 2

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) -

Category 1

AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms







Signal word : Danger

Hazard statements H330 - Fatal if inhaled.

H301 - Toxic if swallowed.

H361 - Suspected of damaging the unborn child.

H372 - Causes damage to organs through prolonged or repeated exposure. (nervous

H410 - Very toxic to aquatic life with long lasting effects.



Section 2. Hazards identification

Precautionary statements

Prevention

- : P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
 - P280 Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 - P284 Wear respiratory protection.
 - P271 Use only outdoors or in a well-ventilated area.
 - P273 Avoid release to the environment.
 - P260 Do not breathe vapor.
 - P270 Do not eat, drink or smoke when using this product.
 - P264 Wash hands thoroughly after handling.

Response

- : P391 Collect spillage.
 - P314 Get medical attention if you feel unwell.
 - P308 + P313 IF exposed or concerned: Get medical attention.
 - P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable
 - for breathing. Immediately call a POISON CENTER or physician.
- P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or
- physician. Rinse mouth.

Storage

: P405 - Store locked up.

Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise

: None known.

classified

Section 3. Composition/information on ingredients

Substance/mixture

Other means of identification

- : Mixture
- Acaricide, Miticide, and Nematicide Insecticide.
 Mixture, typically not less than 80% Avermectin B1a and not more than 20% Avermectin B1b.

Ingredient name	%	CAS number
Abamectin	≥5 - ≤9.9	71751-41-2
Propane-1,2-diol	≥3 - ≤5	57-55-6
Alcohols, C12-14, ethoxylated	≥1 - ≤3	68439-50-9
2,6-Di-tert-Butyl-p-cresol	≥1 - ≤1.2	128-37-0
1,2-Benzisothiazol-3(2H)-one	<0.05	2634-33-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation

: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain

Section 4. First aid measures

Skin contact

an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

: Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before

reuse.

Ingestion : Get medical attention im

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation : Fatal if inhaled.

Skin contact: No known significant effects or critical hazards.

Ingestion: Toxic if swallowed.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact: Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion: Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

: No specific treatment.

Protection of first-aiders

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

Unsuitable extinguishing media

: Use dry chemical, carbon dioxide, water spray (fog) or foam.

: None known.

Specific hazards arising from the chemical

: In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products Decomposition products may include the following materials: carbon dioxide carbon monoxide

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.



Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Abamectin	None.
Propane-1,2-diol	AIHA WEEL (United States, 10/2011).
	TWA: 10 mg/m³ 8 hours.
Alcohols, C12-14, ethoxylated	None.
2,6-Di-tert-Butyl-p-cresol	NIOSH REL (United States, 10/2016).
	TWA: 10 mg/m³ 10 hours.
	ACGIH TLV (United States, 3/2017).
	TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction and vapor
1,2-Benzisothiazol-3(2H)-one	None.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.



Section 8. Exposure controls/personal protection

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

 Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : White to slightly beige.

Odor threshold : Some odor.

Not available.

pH : 5.96

Melting point: Not available.Boiling point: Not available.Flash point: 256°C (492.8°F)Evaporation rate: Not available.Flammability (solid, gas): Not available.Lower and upper explosive: Not available.

(flammable) limits

Vapor pressure: Not available.Vapor density: Not available.

Relative density : 1.05

Solubility : Partially soluble in water.

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature: Not available.Decomposition temperature: Not available.Viscosity: Not available.Flow time (ISO 2431): Not available.



Section 10. Stability and reactivity

Reactivity

: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

: The product is stable.

Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

: No specific data.

Incompatible materials

: Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products

 Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Abamectin	LC50 Inhalation Vapor	Rat	1100 mg/m³	4 hours
	LD50 Oral	Rat	1.5 mg/kg	-
Propane-1,2-diol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-
2,6-Di-tert-Butyl-p-cresol	LD50 Oral	Rat	890 mg/kg	-
1,2-Benzisothiazol-3(2H)-one	LD50 Oral	Rat	1020 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Propane-1,2-diol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
·	Eyes - Mild irritant	Rabbit	-	100 mg	-
2,6-Di-tert-Butyl-p-cresol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
• •	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-
1,2-Benzisothiazol-3(2H)-one	Skin - Mild irritant	Human	-	48 hours 5%	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
2,6-Di-tert-Butyl-p-cresol	-	3	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)



Section 11. Toxicological information

Name	Category	Target organs
Abamectin	Category 1	nervous system

Aspiration hazard

There is no data available.

Information on the likely routes of exposure

: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Fatal if inhaled.

: No known significant effects or critical hazards. Skin contact

Ingestion : Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards. Inhalation : Adverse symptoms may include the following:

reduced fetal weight

increase in fetal deaths skeletal malformations

Skin contact : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion Adverse symptoms may include the following:

> reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate

effects

: No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate

effects

: No known significant effects or critical hazards.

: No known significant effects or critical hazards.

Potential chronic health effects

Potential delayed effects

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards. Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards. **Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates



Section 11. Toxicological information

Route	ATE value
	61.23 mg/kg 0.6127 mg/L

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Abamectin	Acute EC50 7.3096 mg/L Fresh water	Algae - Scenedesmus acutus var. acutus	96 hours
	Acute EC50 4.4 mg/L Fresh water	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 0.00027 mg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3.6 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic EC10 0.71 mg/L Fresh water	Algae - Scenedesmus subspicatus	72 hours
	Chronic NOEC 0.0047 µg/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Propane-1,2-diol	Acute EC50 >110 ppm Fresh water	Daphnia - Daphnia magna	48 hours
•	Acute LC50 1020000 µg/L Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 710000 µg/L Fresh water	Fish - Pimephales promelas	96 hours
2,6-Di-tert-Butyl-p-cresol	Acute EC50 1440 µg/L Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
1,2-Benzisothiazol-3(2H)-one	Acute EC50 97 ppb Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 10 to 20 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 167 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Propane-1,2-diol	-1.07	-	low
2,6-Di-tert-Butyl-p-cresol	5.1	330 to 1800	high

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.



Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2902	UN2902	UN2902
UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (Abamectin)	PESTICIDE, LIQUID, TOXIC, N.O.S. (Abamectin). Marine pollutant (Abamectin, Alcohols, C12-14, ethoxylated)	PESTICIDE, LIQUID, TOXIC, N.O.S. (Abamectin)
Transport hazard class(es)	6.1	6.1	6.1
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.

AERG: 151

Additional information

IATA

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

The environmentally hazardous substance mark may appear if required by other

transportation regulations.

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : United States inventory (TSCA 8b): Not determined.

Clean Water Act (CWA) 311: Sodium hydroxide

Clean Air Act Section 112 : Not listed

(b) Hazardous Air

Pollutants (HAPs)

Clean Air Act Section 602

Class I Substances

: Not listed

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312



Section 15. Regulatory information

Classification : ACUTE TOXICITY (oral) - Category 3

ACUTE TOXICITY (inhalation) - Category 2

TOXIC TO REPRODUCTION (Unborn child) - Category 2

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) -

Category 1

Composition/information on ingredients

Name	Classification
Abamectin Propane-1.2-diol	ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (inhalation) - Category 1 TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
2,6-Di-tert-Butyl-p-cresol	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number
Form R - Reporting requirements	Abamectin	71751-41-2
Supplier notification	Abamectin	71751-41-2

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: 2,6-Di-tert-Butyl-p-cresol

New York : None of the components are listed.

: The following components are listed: Abamectin; Propane-1,2-diol; 2,6-Di-tert-Butyl-p-**New Jersey**

Pennsylvania : The following components are listed: Propane-1,2-diol; 2,6-Di-tert-Butyl-p-cresol

California Prop. 65

MARNING: This product can expose you to Abamectin, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 3	Calculation method
ACUTE TOXICITY (inhalation) - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) -	Calculation method
Category 1	
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

History

Date of issue mm/dd/yyyy : 08/15/2018 Date of previous issue : 01/30/2017

Version

Prepared by : KMK Regulatory Services Inc.



Section 16. Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

