



Abacus V

Safety Data Sheet

Revision date: May 12, 2015

Version: 1.0

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade Name	Abacus V
CAS No.	Mixture
EPA Registration Number	83100-32-83979

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

1.2.1. Relevant identified uses

Use of the substance/preparation LoV Agricultural Insecticide/Miticide

1.2.2. Uses advised against

Consumer use

1.3. Details of the supplier of the safety data sheet

Rotam North America, Inc.
4900 Koger Blvd. Suite# 140
Greensboro, NC 27407
Phone: 1-(866) 927-6826 (toll free); 1-(336) 346-8802
msds@rotam.com

1.4. Emergency telephone number

Emergency number	1-800-858-7378 (NPIC)
	1-800-222-1222 (Poison Control Center)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

<u>Hazard Class</u>	<u>Category</u>	<u>Hazard Statement</u>
Flammable Liquids	4	H227
Acute Toxicity – Oral	4	H302
Serious Eye Damage/Eye Irritation	2B	H320
Reproductive Toxicity	1B	H360
Specific Target Organ Toxicity (Single Exposure)	3	H335
Specific Target Organ Toxicity (Repeated Exposure)	2	H373
Aquatic Hazard (Acute)	1	H400
Aquatic Hazard (Chronic)	1	H410

If applicable, full text of H-phrases appear in "Label elements" below

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

GHS Labeling Elements

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Hazard pictograms (CLP)



GHS07

GHS08

GHS09

Signal word

DANGER

Hazard statements

H302 – Harmful if swallowed
H320 – Causes eye irritation
H360 – May damage fertility or the unborn child
H335 – May cause respiratory irritation
H373 – May cause damage to organs (central nervous system) through prolonged or repeated exposure
H410 – Very toxic to aquatic life with long lasting effects

Precautionary statements (prevention)

P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P260 – Do not breathe mists/vapors/spray.
P271 – Use only outdoors or in a well-ventilated area.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P280 – Wear protective gloves and eye/face protection.
P272 – Avoid release to the environment.

Precautionary statements (response)

P301+P312 – IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330 – Rinse mouth.
P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 – Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 – If eye irritation persists: Get medical advice or attention
P308+P313 – If exposed or concerned: Get medical advice or attention.
P314 – Get medical advice or attention if you feel unwell.
P391 – Collect spillage.

Precautionary statements (storage)

P403+P233, P235 – Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 – Store locked up.

Precautionary statements (disposal)

P501 – Dispose of contents/containers in accordance with local/regional/national/international regulations

2.3. Other hazards/labeling information

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

SECTION 3: Composition/information on ingredients

Name	CAS #	%/wt.
Abamectin (Avermectin B1a) (Avermectin B1b)	71751-41-2 (65195-55-3) (65195-56-4)	2.0
Inert Ingredients (includes 1-Methyl-2-pyrrolidone)	Not Applicable	98.0

SECTION 4: First aid measures

4.1. Description of first aid measures

- IF INHALED** : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice if irritation develops or persists.
- IF SWALLOWED** : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person
- First-aid measures – general** Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of this product can be minimized by early administration of chemical absorbents (e.g., activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.
- In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

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

Symptoms of eye contact may include eye pain, watering and redness.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO ₂), dry chemical, foam, water spray (fog)
Unsuitable extinguishing media	Do not use water jet or water-based fire extinguishers

5.2. Special hazards arising from the substance or mixture

Fire hazard	In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. 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.
Explosion hazard	None.
Reactivity	The product is stable at normal handling and storage conditions.

5.3. Advice for firefighters

Firefighting instructions	Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Prevent material from entering drains and water courses.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Wear appropriate personal protective equipment (PPE): Eye and face protection, coveralls, gloves, boots. Avoid misting conditions during cleanup. Absorb with sand or inert material. Put in appropriate container and dispose according to Local, State or Federal regulations. Keep spills away from drinking supplies. Clean contaminated floors and objects thoroughly, observing environmental regulations. Read label for additional information.
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6.1.1. For non-emergency personnel

Protective equipment	Wear appropriate personal protective equipment (PPE) detailed in Section 8.
Emergency procedures	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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment detailed in Section 8.

6.1.2. For emergency responders

Protective equipment	Wear appropriate personal protective equipment (PPE) detailed in Section 8.
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6.2. Environmental precautions

Prevent material from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Small Spills: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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

7.1. Precautions for safe handling

Precautions for safe handling

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Keep away from heat, sparks, open flame or any other ignition sources. Use non-sparking tools. Use explosion-proof ventilation equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store in original container. Keep containers tightly closed. Do not store in unlabeled containers. Keep separated from incompatible substances (see Section 10). Store in a cool and well-ventilated room. Store locked up. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Keep out of the reach of children.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

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Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves (e.g., nitrile, butyl, or neoprene). An emergency shower or water supply should be readily accessible to the work area. 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: If vapors or mists are present, wear NIOSH approved air-purifying respirator with cartridges/canisters.

Additional Protective Equipment Considerations: Chemical-resistant headgear for overhead exposure. Chemical-resistant apron when cleaning equipment, mixing or loading.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

8.2. Exposure controls

Provide adequate ventilation when product is used. Eyewash and shower should be provided in mixing and loading areas.

Exposure controls, if any, are listed in the table below:

Exposure limits have not been established for the components in this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Yellowish
Odor	Characteristic
Odor threshold	No data available
pH	6.4 (1% in water)
Relative evaporation rate (butyl acetate=1)	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	>100 °C (212 °F)
Self-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor pressure	No data available

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Relative vapor density at 20 °C	No data available
Relative density	1.05 at 25 °C
Solubility	Dispersible
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Non explosive
Oxidizing properties	None
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None known. Polymerization will not occur.

10.4. Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5. Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials and reducing materials. Slightly reactive or incompatible with the following materials: organic materials, acids and alkalis.

10.6. Hazardous decomposition products

Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity data for Abacus V are given below:

Acute toxicity – Abacus V	
LD50 oral rat	>550 mg/kg
LD50 dermal rat	>2000 mg/kg
LC50 inhalation rat	>5.57 mg/L, 4 h
Skin corrosion/irritation	Not classified as a skin irritant

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Acute toxicity – Abacus V	
Serious eye damage/irritation	Causes eye irritation
Respiratory or skin sensitization	Not a sensitizer

Information/data for individual components are provided below:

Germ cell mutagenicity	Does not contain ingredients classified as a mutagenic
Carcinogenicity	Does not contain ingredients classified as carcinogenic by IARC, NTP, OSHA or IARC.
Reproductive toxicity	Abamectin and 1-methyl-2-pyrrolidone are reproductive toxins
Specific target organ toxicity (single exposure)	1-methyl-2-pyrrolidone may cause lung irritation
Specific target organ toxicity (repeated exposure)	Abamectin may cause damage to organs (nervous system) through prolonged or repeated contact.
Aspiration hazard	Not an aspiration hazard
Additional toxicity comments	None

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological Summary

Abacus V is highly toxic to bees and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Ecotoxicity data

Ecotoxicity data are not available for Abacus V. Active ingredient data are shown below:

Abamectin	
Fish (Bluegill and Rainbow Trout 96 hr.)	LC50: 0.0036 mg/L (Trout) LC50: 0.0096 mg/L (Bluegill)
Daphnia (48 hr.)	EC50: 0.00037 mg/L
Acute toxicity to Honey bee	LD50 0.002 µg/bee (Highly toxic to bees)
Acute toxicity mallard ducks, 8 day	383 ppm
Acute toxicity bobwhite Quail, 8 day	3102 ppm
Chronic NOEC Marine water, 21 day	0.03 ppb (Daphnia magna)

12.2. Persistence and degradability

No data available.

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12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Dispose of in compliance with federal, state and local regulations.

Container disposal/handling

Empty containers or liners may retain some product residues. Vapor from product residues may create a flammable atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally.

Pesticide Disposal: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal (Nonrefillable Container): Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Offer for recycling, if available. If not, dispose of in a sanitary landfill or by burning, if allowed by State law. If burned, keep out of the smoke.

Residue Removal: Triple rinse or pressure rinse container (or equivalent) promptly after emptying. See container label for additional information.

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SECTION 14: Transport information

Ground transport

Not Regulated by US DOT

Not Regulated by Canadian TDG

Transport by sea (IMDG)

UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin); 9; III; Marine Pollutant

Air transport (ICAO/IATA)

UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin); 9; III

Additional Air, Sea and International Transportation Information

UN-No.	: 3082
Proper Shipping Name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin)
Transport document description	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin), 9, III
Class (UN)	: 9
Hazard labels (UN)	: 9



Packing group (UN)	: III
Marine Pollutant (Y/N)	: Y
Dangerous for the environment	:



SECTION 15: Regulatory information

TSCA Inventory:

All components in these products are listed on the TSCA Inventory or are exempt from listing thereunder.

FIFRA Information:

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word	: CAUTION
Hazard statements	: Causes substantial but temporary eye injury. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Precautionary statements	: Wear protective eyewear (goggles or face shield). Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

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SARA 313 Regulated Chemical(s): Not applicable

Title III hazard classification:

Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire: No
Reactivity/Physical hazard: No
Pressure: No

CERCLA/DOT Reportable Quantities (RQ)

Not applicable

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canadian Regulatory Information:

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. WHMIS Classification: Class D2B – Toxic Material.

SECTION 16: Other information

NFPA: Health: 2; Flammability: 1; Reactivity: 0; Specific:
HMIS: Health: 2; Flammability: 1; Physical Hazard: 0; PPE: H

Prepared By: Rotam North America

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