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SAFETY DATA SHEET

Section 1. Company Contact and Chemical Product Information

Product Name: ABACUS® V

EPA Reg. No.: 83100-32-83979

Corporate Contact: 1-866-927-6826 (toll free); 1-305-599-2221

Emergency Number for Spills and Cleanup: CHEMTREC: 1-800-424-9300

Medical Emergencies and Health and Safety Inquiries: POISON CONTROL CENTERS: 1-800-222-1222

Chemical Name of Active Ingredient (CAS): Mixture of avermectins (mainly Avermectin B1a)

Chemical Formula of Active Ingredients: C₄₈H₇₂O₁₄ (B1a); C₄₇H₇₀O₁₄ (B1b);

CAS Registry Number of Active Ingredient: Abamectin 71751-41-2 (CAS)

Section 2. Hazards Identification

CLASSIFICATIONS ACCORDING TO OSHA 2012 HCS (29 CFR 1910.1200)

Health Hazards:

Signal word: DANGER

Pictograms:



Acute Oral Toxicity: Hazard Category 4 – Harmful if swallowed. Wash hand thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth. Collect spillage. Dispose of contents/containers according to Section 13.

Target Organ Toxicity: Hazard Category 2- May cause damage to organs (nervous system)

Physical or Chemical Hazards: Do not use or store near heat or open flame.

Environmental Hazards:

Aquatic Toxicity: Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

Section 3. Composition/Information on Ingredients

Component	CAS Number	Content (% w/w)
Abamectin	71751-41-2	2%
Inert ingredients		98%

Section 4. First Aid Measures

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.

If Swallowed: Do not induce vomiting unless told to do so by a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

If Inhaled: Move person 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.

Note to Physician: Recommendations for Medical Treatment for ABACUS V (Avermectin B₁) Acute Toxicity: Early signs of intoxication include mydriasis (dilated pupils), ataxia (unsteadiness), and muscle tremors. Toxicity follows accidental ingestion of the concentrate and can be minimized by inducing vomiting within one-half hour of exposure.

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) 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 avermectin 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 avermectin exposure.

(Avermectin B₁) Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact a Poison Control Center at 1-800-222-1222 for emergency medical treatment information.

Section 5. Fire Fighting Measures

Flash Point : Non-flammable.

Firefighting Media: Dry chemical powder, alcohol-resistant foam and CO₂.

Firefighting Precaution: Keep out of smoke. Fight fire from upwind position. Cool containers / tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Equipment or materials involved in pesticide fires may become contaminated. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards: Thermal decomposition products may include, but are not limited to, carbon monoxide and carbon dioxide.

Section 6. Accidental Release Measures

In case materials are released, keep unauthorized persons away. Clean up small spills immediately, use proper personal protection. Absorb spill with absorbent material such as pet litter. After removal, flush contaminated area thoroughly with water containing a strong detergent. Sweep up and place in a chemical container. Seal the container and handle in an approved manner. Keep spills out of streams and domestic water supplies. Dike to prevent contamination of local water sources. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Dispose of all waste and rinse in the appropriate manner.

Section 7. Handling and Storage

Handling Precautions: Read label carefully before use. Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Do not contaminate water, food or feed by storage or disposal.

Storage Precautions: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls: Provide local exhaust or process enclosure ventilation system.

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves, such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, all > 14 mils. Shoes plus socks.

Eye/Face Protection: To protect against accidental eye contact, goggles/face-shield should be worn.

Respiratory Protection: When needed, based on the conditions of use, wear a NIOSH-approved respirator with purifying cartridge.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Limits:

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
BHT (Butylated hydroxytoluene)	128-37-0	<1%	10 mg/m ³	2 mg/m ³	NE	IARC Group 3*
Acetic acid	64-19-7	<1%	10ppm (TWA) 25 mg/m ³ (TWA)	10ppm (TWA) 15 ppm STEL	10 ppm (TWA) 25mg/m ³ (TWA) 50ppm (IDLH)	NA
n-Methyl pyrrolidone	872-50-4	>10 %	NA	NA	10 ppm (TWA)	NA

*IARC Group 3 - The agent (mixture or exposure circumstance) is unclassifiable as to carcinogenicity to humans

Section 9. Physical and Chemical Properties

Appearance: Yellow liquid

Odor: Characteristic odor

pH: 6.37 (1% solution in water)

Density: 1.0408 g/cm³

Flammability: Not flammable

Explosive property: Not applicable

Section 10. Stability and Reactivity

Stability: Stable under normal handling and storage conditions.

INCOMPATIBILITIES: None known.

HAZARDOUS DECOMPOSITION: Thermal decomposition products may include, but are not limited to,

carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

Section 11. Toxicological Information

Acute Oral Toxicity (rats): LD₅₀ > 550 mg/kg

Acute Dermal Toxicity (rats): LD₅₀ > 2000 mg/kg

Acute Inhalation Toxicity (rats): LC₅₀ > 5.57 mg/L (4-hr)

Skin Irritation: Non-irritating

Eye Irritation: Non-irritating

Skin Sensitization: Not a skin sensitizer

Other Toxicological Information:

Repeated dose toxicity: Not classified

Carcinogenicity: Not classified

Mutagenicity: Not classified

Reproduction toxicity: Not classified

Aspiration Hazard: Not classified

Section 12. Ecological Information

Environmental Hazards: This pesticide is toxic to fish and wildlife. Do not apply directly to water, to areas where surfacewater is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target areas. Do not contaminate water when disposing of equipment washwater or rinsate. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Use of this product may pose a risk to threatened and endangered species of fish, amphibians, crustaceans (including freshwater shrimp), and insects. All use of this product in the state of California should comply with the recommendations of the California Endangered Species Project. Before using this product in California, consult with your county agriculture commissioner to determine use limitations that apply in your area.

Ecotoxicological Information:

Fish (Danio rerio) LC₅₀: > 2.29 mg/L

Mallard duck LD₅₀ (96-h): 84.6 mg/kg

Bobwhite quail LD₅₀ (96-h): > 2000 mg/kg

Daphnia EC₅₀: 6.3 µg/L

Green algae ErC₅₀: 13.12 mg/L

Environmental Fate:

Animals: Rapidly eliminated (80-100% in 96 hours), mainly via feces, urinary excretion was 0.5-1.4%.

Plants: degradation/metabolism in each of three different plants is similar and occurs predominantly by photolysis on the plant surfaces. The definition of the residue is thus expressed as the combined residues of avermectin B1 and its 8, 9-Z-avermectin B1 photoisomer.

Soil/Environment: Binds tightly to soil, with rapid degradation by soil microorganisms. No bioaccumulation.

Section 13. Disposal Considerations

Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray

mixture, or rinsate is a violation of federal law. If wastes cannot be disposed of by 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. Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

Section 14. Transport Information

US DOT Classification

Proper Shipping Name: Not Regulated

IMO Classification

UN No.: 3082

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S.
(Abamectin)

Class: 9

Packaging Group: III

Marine Pollutant: Yes

IATA Classification

UN No.: 3082

Proper Shipping Name: Environmentally hazardous substance, liquid N.O.S.
(Abamectin)

Class: 9

UN No.: 3082

Packaging Group: III

Section 15. Regulatory Information

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 for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION Causes substantial but temporary eye injury. Harmful swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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.

US FEDERAL REGULATIONS:

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)
Delayed health hazard (chronic)

Section 313: Abamectin (2%) CAS No. 71751-4-2
n-Methylpyrrolidone CAS No.: 872-50-4

CA PROPOSITION 65: n-Methylpyrrolidone (Code D)

CERCLA RQ: Acetic acid CAS No. 64-19-7 RQ=5,000 lb.

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

Section 16. Other Information

Disclaimer: The information provided by Rotam North America, Inc. contained herein is given in good faith and correct to the best of our knowledge. However, 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.

SDS DATE: 8-29-2013