



Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SHUTTLE™ 15 SC MITICIDE
EPA REGISTRATION NUMBER: 66330-38
SYNONYM(S): TM-41301, AKD-2023 15% Flowable, KANEMITE™ 15 SC Miticide

COMPANY

Arysta LifeScience North America Corporation
15401 Weston Parkway, Suite 150
Cary, NC 27513

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY:	SPILL EMERGENCY:
1-866-303-6952, or 1-651-632-8946	1-800-424-9300, or 1-703-527-3887

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits*	% Weight	% Volume
Acequinocyl (3-Dodecyl-1,4-dihydro-1,4-dioxo-2-naphthylacetate)	57960-19-7	TWA^a OSHA PEL ^b : None ACGIH TLV ^c : None NIOSH REL ^d : None	15.8	NA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

^a**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

^b**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

^c**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

^d**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

CAUTION:

- **HARMFUL IF INHALED**
- **MAY CAUSE SLIGHT EYE IRRITATION**
- **PROLONGED EXPOSURE MAY CAUSE SKIN SENSITIZATION**
- **KEEP OUT OF REACH OF CHILDREN**

Acute Health Hazards

Inhalation: May be harmful if inhaled. Avoid breathing dust. Remove and wash contaminated clothing before reuse.

Eyes: May cause slight eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Skin: May cause slight skin irritation. Avoid contact with skin and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Ingestion: Not expected to be an ingestion hazard under normal handling operations.

Chronic Health Hazards (Including Cancer): No evidence of carcinogenicity from animal studies. Effects to the liver, kidney, and hematology system have been observed following chronic exposure in laboratory animals.

Reproductive and Developmental Toxicity: No evidence of reproductive or developmental toxicity.

SECTION 4: FIRST AID MEASURES

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

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 a poison control center or doctor for treatment advice.

Skin: 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.

Ingestion: Call 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 do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NDA
	Lower:	NDA
Flash Point:		NDA
	Method Used:	NDA
Autoignition Temperature:		NDA
LEL/UEL:		NDA
NFPA Hazard Classification:		
	Health:	1
	Flammability:	NDA
	Reactivity:	NDA
	Other:	NDA
Extinguishing Media:		Foam, dry powder, CO ₂ extinguisher, or water mist
Special Fire Fighting Procedures:		Avoid inhaling or contact with the substance, any combustion products, or resulting gases. Wear full protective clothing and mask.
Hazardous Combustion Products:		NDA

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PHONE NUMBERS

Exposure Calls (PROSAR): 1-866-303-6952 or 1-651-632-8946 (International)

Spill Calls (CHEMTREC): 1-800-424-9300 or 1-703-527-3887

Isolate and post spill area. Wear prescribed protective clothing and equipment. Keep out unprotected persons and animals. Large spills should be covered to prevent dispersal. Vacuum or shovel wastes into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution and add the solution to the drums of wastes already collected. Spillage or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body. Remove contaminated water for removal or treatment.

SECTION 7: HANDLING AND STORAGE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Store in well ventilated place. Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Keep out of reach of children.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Do not get this material in your eyes. The use of chemical safety eyewear is recommended when handling this material.

Respiratory/Ventilation Requirements: Make sure that adequate ventilation is available to avoid breathing the spray mist. If needed, use a MSHA/NIOSH approved respirator for pesticides to eliminate inhaling the material.

Skin Protection: Avoid skin contact by wearing appropriate protective clothing, gloves and eye/face protection. Remove contaminated clothing and wash before re-wearing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellowish
Odor:	Slightly aromatic odor
Physical State:	Viscous suspension
pH:	6.5-7.0 (20% in water)
Boiling Point:	NDA
Melting Point:	NA
Freezing Point:	NA
Vapor Pressure:	NDA
Vapor Density:	NDA
Specific Gravity:	1.02-1.05 (20 °C)
Evaporation Rate:	NDA
Solubility in Water:	NDA
Percent Solids by Weight:	NDA
Percent Volatile:	NDA
Volatile Organic Compounds (VOC):	NDA
Molecular Weight:	NDA
Viscosity:	NDA

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions
Hazardous Polymerization:	Will not occur
Flash Point:	NDA
Flammable Point:	NDA
Auto Ignition:	NDA
Incompatibility With Other Materials:	Excessive heat and fire, oxidizers and acids
Hazardous Decomposition Products:	None identified

SECTION 11: TOXICOLOGICAL INFORMATION**Acute:**

Eye Irritation: This product produced slight eye irritation in rabbits (irritation cleared within 48 hours following exposure).

Skin Irritation: This product was not irritating to the skin of rabbits following 4-hr exposure.

Dermal Toxicity: The dermal LD₅₀ of this product is > 2,000 mg/kg in male and female rats.

Oral Toxicity: The oral LD₅₀ of this product in rats and mice is > 5,000 mg/kg (male/female).

Inhalation Toxicity: The inhalation LC₅₀ (4-hr) of this product is > 4.56 mg/L in rats (male/female).

Skin Sensitization: The test material has been shown to be negative in the modified Buehler test, and mild sensitization in the Magnusson/Kligman maximization test.

Subchronic Toxicity: (based upon testing of the active ingredient) Following 13-week dietary exposure to mice (NOEL < 100 ppm), rats (NOEL ≥ 400 ppm), or dogs (NOEL < 40 ppm), at least one of the following adverse effects were observed: decreased body weight, decreased food consumption, hematological disturbance, death, anorexia, urine discoloration, altered activity, diarrhea, fecal discoloration, liver effects, heart effects, kidney lesions, hemorrhage.

Chronic/Carcinogenicity: (based upon testing of the active ingredient) Not carcinogenic in rats, mice, or dogs. In general, the clinical signs and adverse effects that occurred in the subchronic tests were also observed during chronic testing.

Teratology/Developmental Toxicity: (based upon testing of the active ingredient) Not teratogenic in rabbits or rats. Only at maternally toxic doses was fetotoxicity observed in rabbits (≥ 60 mg/kg/d) and rats (≥ 500 mg/kg/d).

Reproduction: (based upon testing of the active ingredient) Not a reproductive toxicant in rat 2-generation study (NOEL $> 1,500$ ppm).

Mutagenicity: (based upon testing of the active ingredient) Negative for bacterial reverse mutation, chromosomal aberration in CHO cells, and mouse micronucleus tests.

SECTION 12: ECOLOGICAL INFORMATION

Avian Toxicity (based upon technical material):

Bobwhite quail (*C. virginianus*)

Oral LD₅₀ $> 2,000$ mg a.i./kg b.w.

Aquatic Organism Toxicity:

Rainbow trout (*O. mykiss*)

96 hr LC₅₀ = 65 mg a.i./L

Water flea (*D. magna*)

46 hr EC₅₀ = 2.3 µg a.i./L

Other Non-Target Organism Toxicity:

Earthworm (*E. foetida*)

14 d LC₅₀ > 1 mg a.i./kg soil

Honeybee (*A. mellifera* L.)

72 hr contact LD₅₀ > 350 µg /bee

Honeybee (*A. mellifera* L.)

72 hr oral LD₅₀ > 315 µg /bee

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national regulations. An acceptable method of disposal is to burn in an incinerator. Do not cut or weld metal containers. Vapors that form inside may create an explosion hazard.

SECTION 14: TRANSPORT INFORMATION

D.O.T. Shipping Name:	Not regulated
Technical Shipping Name:	NA
Packing Group:	NA
D.O.T. Hazard Class:	NA
U.N./N.A. Number:	NA
Product RQ (lbs):	NA
D.O.T. Label:	NA
D.O.T. Placard:	NA
Marine Pollutant:	Yes
IMO :	
Shipping Name:	Environmentally hazardous substance liquid, N.O.S.
IMO Label:	9
IMO Placard:	9
European Road/Rail:	
Class:	NA

SECTION 15: REGULATORY INFORMATION**U.S Federal Regulations**

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act): All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

CERCLA (Comprehensive Response Compensation, and Liability Act): None.

OSHA (Occupational Safety and Health Administration): NA

SARA Title III (SUPERFUND Amendments and Reauthorization Act):

Section 302 (EHS) TPQ: NONE

Section 304 (EHS) RQ: NONE

Section 311/312 CATEGORIES	1.	Immediate (Acute) Health Effects; YES
	2.	Delayed (Chronic) Health Effect; YES
	3.	Fire Hazard; NDA
	4.	Sudden Release of Pressure Hazard; NDA
	5.	Reactivity Hazard; NDA

TSCA (Toxic Substance Control Act): This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

State Regulations: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

International Regulations:

EEC Classification: NDA

Risk Phrases: NDA

Safety Phrases: NDA

SECTION 16: OTHER INFORMATION

Reason for issue:	Changes to Product Information (Section 1)
Prepared by:	Ashley R. Brown
Issue date:	06/08/07
Supersedes date:	03/05/06
MSDS number:	00163

The information in this MSDS is based on data available to us as of the issue date given herein, and believed to be correct. Contact Arysta LifeScience North America Corporation at (919) 678-4900 to determine if additional data and information have become available since the issue date.

Judgments as to the suitability of information herein for the individual's own uses or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Arysta LifeScience North America Corporation extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.