



MATERIAL SAFETY DATA SHEET

Arena[®] 50 WDG

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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: Arena[®] 50 WDG
EPA REGISTRATION NUMBER(S): 66330-40
SYNONYM(S): TM-44401, TM-444 50WDG

<u>COMPANY</u>	<u>EMERGENCY TELEPHONE NUMBERS</u>	
Arvesta Corporation 100 First Street, Suite 1700 San Francisco, CA 94105	HEALTH EMERGENCY: 1-800-228-5635 ext. 174, or 1-651-632-8946 (International)	SPILL EMERGENCY: 1-800-424-9300

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits	% Weight	% Volume
(E)-1-(2-chloro-1,3-thiazol-5-ylmethyl)-3-methyl-2-nitroguanidine	210880-92-5	TWA^a OSHA PEL ^b : None ACGIH TLV ^c : None NIOSH REL ^d : None	50	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**

- DANGER:**
- **HARMFUL IF SWALLOWED**
 - **MAY CAUSE MODERATE EYE IRRITATION**
 - **AVOID CONTACT WITH EYES, SKIN, AND CLOTHING**
 - **AVOID BREATHING SPRAY MIST**
 - **KEEP OUT OF REACH OF CHILDREN**

The toxicological, chemical and physical properties of this product have not been fully investigated and its handling or use may be hazardous. This product is intended for experimental use by qualified personnel only.

Acute Health Hazards (based on TM-444 50WDG)

Eye: Slight to moderate eye irritation can be expected. The degree of injury will depend upon the amount and duration of contact, and the speed and thoroughness of the first aid treatment.

Skin: Slight skin irritation can be expected. The degree of irritation will depend upon the speed and thoroughness of the first aid treatment. The product does not cause dermal sensitization.

Ingestion: This product may be harmful if ingested. The degree of injury will depend upon the amount and duration of exposure, and the speed and thoroughness of the first aid received.

Inhalation: Inhalation of this product may cause respiratory irritation. Short-term inhalation is not expected to be toxic. The degree of irritation will depend upon the amount and duration of exposure, and the speed and thoroughness of the first aid treatment received.

Chronic Health Hazards (Including Cancer): The active ingredient is not carcinogenic to laboratory animals.

Teratology (Birth Defects) Information: This product is not teratogenic and does not cause adverse reproductive effects to laboratory animals. The technical material is fetotoxic (not teratogenic) in animal studies at maternally toxic doses.

Mutagenicity: The active ingredient has shown signs of mutagenicity in some laboratory tests. The weight-of-evidence from *in vivo* whole animal tests suggest that this product does not present a mutagenic hazard.

SECTION 4: FIRST AID MEASURES

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 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 do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NDA
	Lower:	NDA
Flash Point:		
	Method Used:	NDA
Autoignition Temperature:		
LEL/UEL:		
NFPA Hazard Classification:		
	Health:	1
	Flammability:	0
	Reactivity:	0
	Other:	None
Extinguishing Media:		
Chemical foam, dry chemical and CO ₂ are suitable		
Special Fire Fighting Procedures:		
Firefighters and others who may be exposed to mist or products of combustion should wear full protective and self-contained breathing apparatus. Keep fire exposed containers cool by spraying with water. Firefighting equipment should be thoroughly cleaned after use.		
Unusual Fire/Explosion Hazards:		
Combustible		
Hazardous Combustion Products:		
In the event of fire, may emit toxic gases.		

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PHONE NUMBERS

Exposure Calls (PROSAR): 1-800-228-5635 Ext. 174 or 1-651-632-8946 (International)

Spill Calls (CHEMTREC): 1-800-424-9300

Sweep together material and place into containers for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Wear personal protective equipment (clothing, appropriate respirator, boots, etc.)

SECTION 7: HANDLING AND STORAGE

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. 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. Use in a well ventilated area. Avoid contact with skin and eyes. Do not breathe dust. Store in well ventilated area. Keep container tightly closed. Keep from sunlight. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this product. Stable at normal temperatures and storage conditions on closed original package.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear suitable eye protection such as chemical goggles.

Respiratory/Ventilation Requirements: NDA

Skin Protection: Rubber gloves, cap, coveralls, apron, and boots as necessary to protect skin.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Very light tan
Odor:	NDA
Physical State:	Granules
pH:	6.4 at 26-27°C
Boiling Point:	NA
Melting Point:	NDA
Freezing Point:	NA
Vapor Pressure:	NA
Vapor Density:	NA
Bulk Density:	37.4 lb/cubic foot at 20°C
Specific Gravity:	NA
Evaporation Rate:	NA
Solubility in Water:	Dispersible
Percent Solids by Weight:	NDA
Partition Coefficient:	NDA
Percent Volatile:	NDA
Volatile Organic Compounds:	NDA
Molecular Weight:	NDA
Viscosity:	NA

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable at 25°C for 4 months (pH 4-9)
Storage Stability:	Stable at 40°C for 3 months
Hazardous Polymerization:	NDA
Flash Point:	NDA
Flammable Point:	NDA
Auto Ignition:	NDA
Dust Explodability:	The lowest limit; 25 g/m ³
Incompatibility With Other Materials:	NDA
Hazardous Decomposition Products:	NDA

SECTION 11: TOXICOLOGICAL INFORMATION

Acute: (toxicity based on TM-444 50WDG)

Eye Irritation: Slight to moderate

Skin Irritation: Very slight irritation

Skin Sensitization: Not a sensitizer

Dermal Toxicity: LD₅₀ (rats) > 5,000 mg/kg

Oral Toxicity: LD₅₀ (male rats) = 3,900 mg/kg
LD₅₀ (female rats) = 4,700 mg/kg

Inhalation Toxicity: LC₅₀ (rats, 4-hour) > 2.3 mg/L (50WDG formula);
> 6.1 mg/L (technical)

Repeated Exposure (lowest NOEL): NOEL = 19 mg/kg (90-day dog dietary)(Technical)

Chronic/Carcinogenicity: The active ingredient is not carcinogenic to laboratory animals.

Teratology/Developmental Toxicity: No teratogenic effects on rats and rabbits were observed. Transient developmental effects (delay ossification) were observed in rabbits at maternally toxic doses (100mg/kg/d).

Mutagenicity: *In vivo* tests have demonstrated that the technical material is not mutagenic. Some *in vitro* tests were positive for mutagenicity. The observed effects *in vitro* were due to cytotoxic effects.

Reproductive Toxicity: No reproductive effects in rats at the highest dose tested (2,500 ppm).

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate and Distribution:

Aerobic soil degradation	DT ₅₀ > 140 days
Leaching	Limited

Avian Toxicity:

Northern bobwhite (<i>C. virginianus</i>)	Oral LD ₅₀ > 2,000 mg a.i./kg b.w.
Japanese quail (<i>C. coturnix japonica</i>)	Oral LD ₅₀ = 430 mg a.i./kg b.w.
Northern bobwhite (<i>C. virginianus</i>)	Diet LC ₅₀ > 5,200 mg a.i./kg diet
Mallard duck (<i>A. platyrhinchus</i>)	Diet LC ₅₀ > 5,200 mg a.i./kg diet

Aquatic Organism Toxicity:

Sheepshead minnow (<i>C. variegatus</i>)	96 hr LC ₅₀ > 100 mg a.i./L
Water flea (<i>D. magna</i>)	48 hr EC ₅₀ > 100 mg a.i./L
Mysid (<i>M. bahia</i>)	96 hr LC ₅₀ = 0.053 mg a.i./L

Other Non-Target Organism Toxicity:

Earthworm (<i>E. fetida</i>)	7 day LC ₅₀ = 19 mg a.i./kg dry soil
Honeybee (<i>A. mellifera</i> L.)	48 hr contact LD ₅₀ = 0.044 mg a.i./bee
Honeybee (<i>A. mellifera</i> L.)	48 hr oral LD ₅₀ = 0.004 mg a.i./bee

SECTION 13: DISPOSAL CONSIDERATIONS

End users must dispose of any unused product as per the label recommendations and in accordance with all applicable laws and regulations. Check governmental regulations and local authorities for approved disposal of this material.

SECTION 14: TRANSPORT INFORMATION

D.O.T. Shipping Name:	NA (Pesticide, non-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:	NDA
IMO:	
IMO Label:	NA
IMO Placard:	NA
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): NA

EPCRA (Emergency Planning and Community Right-to-Know Act) Section 313: NA

OSHA (Occupational Safety and Health Administration): NDA

RCRA (Resource Conservation and Recovery Act): NDA

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; **NO**
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:**Classification:** NDA**Risk Phrases:** NDA**Safety Phrases:** NDA**SECTION 16: OTHER INFORMATION**

Reason for issue:	New MSDS
Prepared by:	James J. Reilly, Jr.
Approval date:	02/07/05
Supersedes date:	NA
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The information in this MSDS is based on data available to us as of the revision data given herein, and believed to be correct. Contact Arvesta Corporation's Compliance Officer - Safety, Health & Environmental Affairs at (415) 536-3491, Fax (415) 546-7699 to determine if additional data and information have become available since the revision date.

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