



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™ 0.25 G
EPA REGISTRATION NUMBER(S): NA
SYNONYM(S): Clothianidin, TM-44410

COMPANY

Arysta LifeScience North America Corporation
100 First Street, Suite 1700
San Francisco, CA 94105

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 |
|---|-------------|--|-------------|-------------|
| (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 | 0.25 | NDA |

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:

- **MAY CAUSE MODERATE EYE IRRITATION**
- **AVOID CONTACT WITH EYES, SKIN, AND CLOTHING**
- **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:

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.

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: | | NDA |
| | Method Used: | NDA |
| Autoignition Temperature: | | NDA |
| LEL/UEL: | | NDA |
| NFPA Hazard Classification: | | |
| | Health: | 0 |
| | 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 SCBA. 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): 1-866-303-6952 or 1-651-632-8946 (International)

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

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: | Grey |
| Odor: | NDA |
| Physical State: | Granules |
| pH: | NDA |
| Boiling Point: | NA |
| Melting Point: | 176-178°C |
| Freezing Point: | NA |
| Vapor Pressure: | 5.7×10^{-8} Pa (20°C) |
| Vapor Density: | NA |
| Bulk Density: | NDA |
| Specific Gravity: | NA |
| Evaporation Rate: | NA |
| Solubility in | |
| Water: | 0.27 g/L at 20°C |
| Ethyl acetate: | 1.77 g/L at 20°C |
| Ethanol: | 2.62 g/L at 20°C |
| Xylene: | 0.012 g/L at 20°C |
| n-hexane: | 9.6×10^{-7} g/L at 20°C |
| Percent Solids by Weight: | NDA |
| Partition Coefficient: | 1.05 at 24°C |
| Percent Volatile: | Negligible |
| Volatile Organic Compounds (VOC): | 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: | NDA |
| Incompatibility With Other Materials: | NDA |
| Hazardous Decomposition Products: | NDA |

SECTION 11: TOXICOLOGICAL INFORMATION

Acute:

Eye Irritation: Slight to moderate eye irritation.

Skin Irritation: Not irritating to skin.

Skin Sensitization: Not a contact sensitizer.

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

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

Inhalation Toxicity: LC₅₀ Rats (4 hrs) > 6.141 mg/L (active ingredient)

Repeated Exposure: 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 over 2 generations at the highest dose tested (2,500 ppm).

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate and Distribution:

Aerobic soil degradation
Leaching

DT₅₀ > 140 days
Limited

Avian Toxicity:

Northern bobwhite (*C. virginianus*)
Japanese quail (*C. coturnix japonica*)
Northern bobwhite (*C. virginianus*)
Mallard duck (*A. platyrhinchus*)

Oral LD₅₀ > 2,000 mg a.i./kg b.w.
Oral LD₅₀ = 430 mg a.i./kg b.w.
Diet LC₅₀ > 5,200 mg a.i./kg diet
Diet LC₅₀ > 5,200 mg a.i./kg diet

Aquatic Organism Toxicity:

Sheepshead minnow (*C. variegatus*)
Water flea (*D. magna*)
Mysid (*M. bahia*)

96 hr LC₅₀ > 100 mg a.i./L
48 hr EC₅₀ > 100 mg a.i./L
96 hr LC₅₀ = 0.053 mg a.i./L

Other Non-Target Organism Toxicity:

Earthworm (*E. fetida*)

7 day LC₅₀ = 19 mg a.i./kg dry soil

Honeybee (*A. mellifera* L.)

48 hr contact LD₅₀ = 0.044 µg a.i./bee

Honeybee (*A. mellifera* L.)

48 hr oral LD₅₀ = 0.004 µg 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 | <ol style="list-style-type: none"> 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: | Change to Section 1 (Synonym) |
| Prepared by: | James J. Reilly, Jr. |
| Issue date: | 11/28/05 |
| Supersedes date: | 11/15/05 |
| MSDS number: | 00109 |

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's Compliance Officer - Safety, Health & Environmental Affairs at (415) 536-3491, Fax (415) 512-0774 to determine if additional data and information have become available since the issue date.

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