

# SAFETY DATA SHEET



## ARMADA® 50 WDG

Version 3.0 / USA  
102000024286

1/12  
Revision Date: 04/02/2020  
Print Date: 04/03/2020

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

Trade name ARMADA® 50 WDG  
Product code (UVP) 79974582  
SDS Number 102000024286  
EPA Registration No. 432-1513

#### Relevant identified uses of the substance or mixture and uses advised against

Use Fungicide  
Restrictions on use See product label for restrictions.  
Information on supplier  
Supplier Bayer Environmental Science  
A division of Bayer CropScience LP  
500 Centregreen Way, Suite 400  
Cary, NC 27513  
USA  
Responsible Department Email: SDSINFO.BCS-NA@bayer.com  
Emergency telephone no.  
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577  
Product Information Telephone Number 1-800-331-2867

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification in accordance with regulation HCS 29CFR §1910.1200

Skin sensitisation: Category 1  
Acute toxicity(Inhalation): Category 4  
Acute toxicity(Oral): Category 4  
Reproductive toxicity: Effects on or via lactation  
Carcinogenicity: Category 1B

#### Labelling in accordance with regulation HCS 29CFR §1910.1200



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**Signal word:** Warning

### Hazard statements

May cause an allergic skin reaction.  
Harmful if inhaled.  
Harmful if swallowed.  
May cause harm to breast-fed children.  
May cause cancer.

### Precautionary statements

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust or mist.  
Avoid contact during pregnancy/ while nursing.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
Wash thoroughly after handling.  
Contaminated work clothing should not be allowed out of the workplace.  
Do not eat, drink or smoke when using this product.  
IF ON SKIN: Wash with plenty of water/ soap.  
If skin irritation or rash occurs: Get medical advice/ attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician.  
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
Rinse mouth.  
IF exposed or concerned: Get medical advice/ attention.  
Specific treatment (see supplemental first aid instructions on this label).  
Wash contaminated clothing before reuse.  
Store locked up.  
Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.  
No health hazards not otherwise classified.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Triadimefon	43121-43-3	41.67
Trifloxystrobin	141517-21-7	8.33
Sodium lignosulphonate	8061-51-6	8.0
Sodium dodecylbenzenesulfonate	25155-30-0	1.85
Crystalline quartz (respirable)	14808-60-7	0.35

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### SECTION 4: FIRST AID MEASURES

#### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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 physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</b>	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 physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
<b>Most important symptoms and effects, both acute and delayed</b>	
<b>Symptoms</b>	To date no symptoms are known.
<b>Indication of any immediate medical attention and special treatment needed</b>	
<b>Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable</b>	High volume water jet
<b>Special hazards arising from the substance or mixture</b>	Dangerous gases are evolved in the event of a fire.
<b>Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
<b>Further information</b>	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.
<b>Flash point</b>	Not applicable

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<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Explosivity</b>	No data available

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Precautions** Avoid dust formation. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

### Methods and materials for containment and cleaning up

**Methods for cleaning up** Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

**Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

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## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

### Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight.

**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

No known occupational limit values.

#### Exposure controls

##### Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

##### Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

##### Hand protection

Chemical resistant nitrile rubber gloves

##### Eye protection

Tightly fitting safety goggles

##### Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

##### General protective measures

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

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	tan
Physical State	water-dispersible granules
Odor	characteristic
Odour Threshold	No data available
pH	ca. 7.5
Viscosity, kinematic	No data available
Vapor Pressure	Not applicable
Vapor Density (Air = 1)	Not applicable
Density	No data available
Bulk density	0.513 - 0.609 g/ml (loose)
Evaporation rate	Not applicable
Boiling Point	Not applicable
Melting / Freezing Point	No data available
Water solubility	dispersible

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<b>Minimum Ignition Energy</b>	No data available
<b>Decomposition temperature</b>	Stable under normal conditions.
<b>Self-accelerating decomposition temperature (SADT)</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Flammability</b>	No data available
<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Explosivity</b>	No data available
<b>Particle size</b>	No data available
<b>Other information</b>	Further safety related physical-chemical data are not known.

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

<b>Thermal decomposition</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	Strong oxidizing agents, Acids
<b>Hazardous decomposition products</b>	Hydrogen chloride (HCl) Amines Nitrogen oxides (NOx) Carbon monoxide

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## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Eye contact, Skin contact, Inhalation, Ingestion
<b>Immediate Effects</b>	

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<b>Eye</b>	Moderate eye irritation.
<b>Skin</b>	Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if absorbed through skin.
<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (Rat) > 500 - 5,000 mg/kg Information given is based on data obtained from similar substances.
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 2.0 mg/l Exposure time: 4 h Determined in the form of dust. highest concentration tested Information given is based on data obtained from similar substances.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 - 5,000 mg/kg Information given is based on data obtained from similar substances.
<b>Skin corrosion/irritation</b>	Slight irritant effect - does not require labelling. (Rabbit) Information given is based on data obtained from similar substances.
<b>Serious eye damage/eye irritation</b>	Slight irritant effect - does not require labelling. (Rabbit) Information given is based on data obtained from similar substances.
<b>Respiratory or skin sensitisation</b>	Skin: Sensitising (Guinea pig) Information given is based on data obtained from similar substances.

### Assessment STOT Specific target organ toxicity – single exposure

Triadimefon: Based on available data, the classification criteria are not met.  
Trifloxystrobin: Based on available data, the classification criteria are not met.

### Assessment STOT Specific target organ toxicity – repeated exposure

Triadimefon did not cause specific target organ toxicity in experimental animal studies.  
Trifloxystrobin did not cause specific target organ toxicity in experimental animal studies.

### Assessment mutagenicity

Triadimefon was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

Triadimefon was not carcinogenic in a lifetime feeding study in rats. Triadimefon caused an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism that triggers these tumours is not relevant to humans.  
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

### ACGIH

Crystalline quartz (respirable)	14808-60-7	Group A2
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### NTP

Crystalline quartz (respirable)	14808-60-7
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### IARC

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Crystalline quartz (respirable)

14808-60-7

Overall evaluation: 1

### OSHA

None.

### Assessment toxicity to reproduction

Triadimefon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. Triadimefon caused reduced fertility, a reduced pup survival.

Trifloxystrobin caused reduced body weight development in offspring during lactation only at doses also producing systemic toxicity in adult rats.

### Assessment developmental toxicity

Triadimefon caused developmental toxicity in only at dose levels toxic to the dams. Triadimefon caused an increased incidence of non-specific malformations.

Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

### Further information

Acute toxicity studies have not been performed on this product as formulated.

Acute toxicity studies have been bridged from a similar formulation(s).

The non-acute information pertains to the active ingredient(s).

## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 4.08 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient triadimefon.

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.015 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient trifloxystrobin.

### Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 7.16 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient triadimefon.

EC50 (Daphnia magna (Water flea)) 0.016 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient trifloxystrobin.

LC50 (Mysidopsis bahia (mysid shrimp)) 0.00862 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient trifloxystrobin.

### Toxicity to aquatic plants

IC50 (Raphidocelis subcapitata (freshwater green alga)) 2.01 mg/l

Exposure time: 120 h

The value mentioned relates to the active ingredient triadimefon.

EC10 (Desmodesmus subspicatus (green algae)) 0.0025 mg/l



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	Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient trifloxystrobin.  IC50 (Desmodesmus subspicatus (green algae)) 0.0053 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient trifloxystrobin.
<b>Biodegradability</b>	Triadimefon: Not rapidly biodegradable Trifloxystrobin: Not rapidly biodegradable
<b>Koc</b>	Triadimefon: Koc: 150 - 510 Trifloxystrobin: Koc: 2377
<b>Bioaccumulation</b>	Triadimefon: Bioconcentration factor (BCF) 31 Does not bioaccumulate. Trifloxystrobin: Bioconcentration factor (BCF) 431 Does not bioaccumulate.
<b>Mobility in soil</b>	Triadimefon: Moderately mobile in soils Trifloxystrobin: Slightly mobile in soils
<b>Environmental precautions</b>	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product</b>	Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label. It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
<b>Contaminated packaging</b>	Consult state and local regulations regarding the proper disposal of container.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply. When and if this material is determined to be a waste, if discarded, this material will carry RCRA waste code(s) <b>NON-RCRA</b> . State and local laws may vary and must be considered.

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### SECTION 14: TRANSPORT INFORMATION

**49CFR** Not dangerous goods / not hazardous material

#### IMDG

UN number **3077**  
Class **9**  
Packaging group **III**  
Marine pollutant **YES**  
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIFLOXYSTROBIN, TRIADIMEFON MIXTURE)**

#### IATA

UN number **3077**  
Class **9**  
Packaging group **III**  
Environm. Hazardous Mark **YES**  
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIFLOXYSTROBIN, TRIADIMEFON MIXTURE )**

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: **INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON**

### SECTION 15: REGULATORY INFORMATION

**EPA Registration No.** 432-1513

#### US Federal Regulations

##### TSCA list

Kaolin 1332-58-7  
Sodium lignosulphonate 8061-51-6  
Sodium aluminium silicate 1344-00-9  
Sodium dodecylbenzenesulfonate 25155-30-0

#### US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No export notification needs to be made.

#### SARA Title III - Section 302 - Notification and Information

Not applicable.

#### SARA Title III - Section 313 - Toxic Chemical Release Reporting

Yes

**US States Regulatory Reporting**  
**CA Prop65**

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WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Crystalline quartz (respirable) 14808-60-7

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Triadimefon	43121-43-3	Developmental toxin.
Triadimefon	43121-43-3	Male reproductive toxin.
Triadimefon	43121-43-3	Female reproductive toxin.

### US State Right-To-Know Ingredients

Triadimefon	43121-43-3	NJ
Kaolin	1332-58-7	MN, RI
Sodium aluminium silicate	1344-00-9	CA, MN
Sodium dodecylbenzenesulfonate	25155-30-0	CA, CT, IL, NJ

None.

### EPA/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 required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Causes moderate eye irritation.  
Harmful if swallowed, inhaled or absorbed through the skin.  
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## SECTION 16: OTHER INFORMATION

### Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development

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TDG                      Transportation of Dangerous Goods  
TWA                      Time weighted average  
UN                        United Nations  
WHO                      World health organisation

### NFPA 704 (National Fire Protection Association):

Health - 2              Flammability - 1              Instability - 1              Others - none

### HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2              Flammability - 1              Physical Hazard - 1              PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason for Revision:** The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 11: Toxicological Information. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

**Revision Date:** 04/02/2020

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