

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



HERITAGE ACTION

Version	Revision Date:	SDS Number:	Date of last issue: -
0.0	01/02/2024	S00028586237	Date of first issue: 01/30/2017

SECTION 1. IDENTIFICATION

Product name : HERITAGE ACTION
Design code : A20964A

Product Registration number : 100-1550

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC
Address : Post Office Box 18300
Greensboro NC 27419
United States of America (USA)

Telephone : 1 800 334 9481
Telefax : 1 336 632 2192

E-mail address : sds.requests@syngenta.com

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

Reproductive toxicity : Category 1B

Specific target organ toxicity : Category 2 (Bile duct)
- repeated exposure

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : May form combustible dust concentrations in air.
H360D May damage the unborn child.
H373 May cause damage to organs (Bile duct) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.

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P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

May form combustible dust concentrations in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Azoxystrobin	131860-33-8	50
kaolin	1332-58-7	>= 30 - < 50
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	68425-94-5	>= 5 - < 10
titanium dioxide	13463-67-7	>= 1 - < 5
sulfuric acid, mono-C12-18-alkyl esters, sodium salts	68955-19-1	>= 1 - < 5
acibenzolar-S-methyl	135158-54-2	1.18
dioxosilane	14808-60-7	>= 0.1 - < 1
methanol	67-56-1	>= 0.1 - < 1
toluene	108-88-3	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Take the victim into fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control center immediately.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.

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- In case of eye contact : Wash contaminated clothing before re-use.
: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.
- Most important symptoms and effects, both acute and delayed : Aspiration may cause pulmonary edema and pneumonitis.
May damage the unborn child.
May cause damage to organs through prolonged or repeated exposure.
- Notes to physician : There is no specific antidote available.
Treat symptomatically.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting : Fire will spread by burning with a visible flame.
As the product contains combustible organic ingredients, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.
- Special protective equipment for fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
Avoid dust formation.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

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Do not create a powder cloud by using a brush or compressed air.
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.
In general personnel handling this material and all conducting equipment should be electrically earthed or grounded. Bulk bags (FIBC) used to contain this material should be Type B, Type C or Type D. Type C bags must be electrically grounded or earthed before powder is charged to or discharged from the bag. If metal or fiber drums are used to contain this material, make certain the metal parts are bonded to the filling equipment and grounded.
This material can become readily charged in most operations. Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Azoxystrobin	131860-33-8	TWA	0.7 mg/m ³	Syngenta
kaolin	1332-58-7	TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
		TWA (Respirable)	5 mg/m ³	NIOSH REL
		TWA (total)	10 mg/m ³	NIOSH REL
		TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (Total)	10 mg/m ³	OSHA P0

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		dust)		
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	2.5 mg/m3 (Titanium dioxide)	ACGIH
acibenzolar-S-methyl dioxosilane	135158-54-2	TWA	0.4 mg/m3	Syngenta
	14808-60-7	TWA (respirable)	10 mg/m3 / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
		STEL	250 ppm 325 mg/m3	OSHA P0
		TWA	200 ppm 260 mg/m3	OSHA P0
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm (10 minutes)	OSHA Z-2
		TWA	100 ppm 375 mg/m3	OSHA P0
		STEL	150 ppm 560 mg/m3	OSHA P0

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Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI
toluene	108-88-3	Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g creatinine	ACGIH BEI

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality

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features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The breakthrough time depends amongst other things from the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : No special protective equipment required.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Dust impervious protective suit

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

Color : off-white

Odor : No data available

Odor Threshold : No data available

pH : 7.5

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : May form combustible dust concentrations in air.

Burning number : 5 (68 °F / 20 °C)
5 (212 °F / 100 °C)

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower : No data available

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flammability limit

Vapor pressure : No data available

Relative vapor density : No data available

Density : No data available

Bulk density : 0.5897 g/cm³

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Minimum ignition temperature : 450 °C

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Minimum ignition energy : 3 - 10 mJ

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : No decomposition if used as directed.

Incompatible materials : None known.

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation

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Skin contact

Eye contact

Acute toxicity

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

Product:

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Components:

Azoxystrobin:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.698 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Acute oral toxicity : LD50 (Rat, male and female): 2,600 mg/kg

acibenzolar-S-methyl:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,000 mg/m³
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

methanol:

Acute oral toxicity : Assessment: The component/mixture is toxic after single in-

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gestion.

Acute inhalation toxicity : Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is toxic after single contact with skin.

toluene:

Acute oral toxicity : LD50 (Rat, male): 5,580 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 25.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): > 5,000 mg/kg

Skin corrosion/irritation

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

Product:

Species : Rabbit
Result : No skin irritation

Components:

Azoxystrobin:

Species : Rabbit
Result : No skin irritation

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Method : OECD Test Guideline 439
Result : No skin irritation

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Species : Rabbit
Result : Irritating to skin.

acibenzolar-S-methyl:

Species : Rabbit
Result : No skin irritation

toluene:

Species : Rabbit
Result : Irritating to skin.

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Serious eye damage/eye irritation

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

Product:

Species	:	Rabbit
Result	:	No eye irritation

Components:

Azoxystrobin:

Species	:	Rabbit
Result	:	No eye irritation

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.

acibenzolar-S-methyl:

Species	:	Rabbit
Result	:	No eye irritation

toluene:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

Not classified due to lack of data.

Product:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Result	:	Does not cause skin sensitization.

Components:

Azoxystrobin:

Species	:	Guinea pig
Result	:	Does not cause skin sensitization.

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acibenzolar-S-methyl:

Species : Guinea pig
Result : The product is a skin sensitizer, sub-category 1B.

toluene:

Species : Guinea pig
Result : Does not cause skin sensitization.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Azoxystrobin:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

acibenzolar-S-methyl:

Germ cell mutagenicity - Assessment : [Animal testing did not show any mutagenic effects.](#)

methanol:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

toluene:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Not classified due to lack of data.

Components:

Azoxystrobin:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

kaolin:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

titanium dioxide:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Based on the results of chronic inhalation studies (with positive results only in a single species - rat), IARC has concluded that: "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide." but that: "There is sufficient evidence in experimental animals for carcinogenicity of titanium dioxide". IARC's overall evaluation was that "titanium diox-

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ide is possibly carcinogenic to humans (Group 2B)."
Our supplier has examined all of the available animal carcinogenicity and mechanistic data together with workplace epidemiology data for titanium dioxide and concludes that the weight of scientific evidence indicates that there is no causative link between titanium dioxide exposure and cancer risk in humans and that workplace exposures in compliance with applicable exposure standards will not result in lung cancer or chronic respiratory diseases in humans.

acibenzolar-S-methyl:

Carcinogenicity - Assessment : [No evidence of carcinogenicity in animal studies.](#)

dioxosilane:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

IARC has concluded that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the form of quartz or cristobalite from occupational sources and in experimental animals from quartz and cristobalite (Group 1). It was noted however, that carcinogenicity was not detected in all industrial circumstances and may be dependent on inherent characteristics of the crystalline silica or external factors affecting its biological activity.

methanol:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

toluene:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

IARC	Group 1: Carcinogenic to humans kaolin (Silica dust, crystalline)	1332-58-7
	Group 1: Carcinogenic to humans dioxosilane (Silica dust, crystalline)	14808-60-7
	Group 2B: Possibly carcinogenic to humans titanium dioxide	13463-67-7

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP	Known to be human carcinogen kaolin (Silica, Crystalline (Respirable Size))	1332-58-7
	Known to be human carcinogen dioxosilane (Silica, Crystalline (Respirable Size))	14808-60-7

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Reproductive toxicity

May damage the unborn child.

Components:

Azoxystrobin:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

acibenzolar-S-methyl:

Reproductive toxicity - Assessment : [Clear evidence of adverse effects on development, based on animal experiments.](#)

methanol:

Reproductive toxicity - Assessment : No toxicity to reproduction

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT-single exposure

Not classified due to lack of data.

Components:

acibenzolar-S-methyl:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

methanol:

Target Organs : Eyes, Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

toluene:

Routes of exposure : Inhalation
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure

May cause damage to organs (Bile duct) through prolonged or repeated exposure.

Components:

Azoxystrobin:

Target Organs : Bile duct
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

acibenzolar-S-methyl:

Assessment : The substance or mixture is not classified as specific target

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organ toxicant, repeated exposure.

dioxosilane:

Routes of exposure : Inhalation
Target Organs : Lungs
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

toluene:

Routes of exposure : Inhalation
Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity

Not classified due to lack of data.

Components:

toluene:

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 5.14 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.0169 mg/l
Exposure time: 48 h

Components:

Azoxystrobin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.28 mg/l
Exposure time: 48 h

EC50 (Americamysis): 0.055 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.109 mg/l
Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.0303 mg/l

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- End point: Growth rate
Exposure time: 72 h
- ErC50 (Skeletonema costatum (marine diatom)): 0.250 mg/l
Exposure time: 72 h
- NOEC (Skeletonema costatum (marine diatom)): 0.010 mg/l
End point: Growth rate
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.16 mg/l
Exposure time: 28 d
- EC10 (Pimephales promelas (fathead minnow)): 0.2197 mg/l
Exposure time: 33 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.044 mg/l
Exposure time: 21 d
- NOEC (Americamysis): 0.00954 mg/l
Exposure time: 28 d
- Toxicity to microorganisms : IC50 (Pseudomonas putida): > 3.2 mg/l
Exposure time: 6 h

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

- Toxicity to fish : LC50 : 17 mg/l
Exposure time: 96 h
Test Type: semi-static test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15 mg/l
Exposure time: 48 h
Test Type: static test
- Toxicity to algae/aquatic plants : ErC50 (green algae): 20 mg/l
Exposure time: 72 h
- NOEC (green algae): 3 mg/l
End point: Growth rate
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOEC (Fish): 0.11 - 0.35 mg/l
Exposure time: 34 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia): 0.419 mg/l
Exposure time: 7 d
- Toxicity to microorganisms : EC50 (Bacteria): 680 mg/l
Exposure time: 3 h

acibenzolar-S-methyl:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.88 mg/l
Exposure time: 96 h

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna Straus (Water flea)): 2.4 mg/l
Exposure time: 48 h
- EC50 (Americamysis): 0.88 mg/l
Exposure time: 96 h
- Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 1.7 mg/l
Exposure time: 72 h
- NOEC (Desmodesmus subspicatus (green algae)): 0.4 mg/l
End point: Growth rate
Exposure time: 72 h
- EC50 (Lemna gibba (gibbous duckweed)): 0.423 mg/l
End point: Frond growth
Exposure time: 7 d
- NOEC (Lemna gibba (gibbous duckweed)): 0.0033 mg/l**
End point: **Frond growth**
Exposure time: **7 d**
- ErC50 (Skeletonema costatum (marine diatom)): 0.22 mg/l
Exposure time: 72 h
- NOEC (Skeletonema costatum (marine diatom)): 0.061 mg/l
End point: Growth rate
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.026 mg/l
Exposure time: 87 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna Straus (Water flea)): 0.044 mg/l
Exposure time: 22 d
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
- toluene:**
- Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus kisutch (coho salmon)): 1.39 mg/l
Exposure time: 40 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (Water flea)): 0.74 mg/l
Exposure time: 7 d

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Persistence and degradability

Components:

Azoxystrobin:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 224 d
Remarks: Persistent in water.

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Biodegradability : Result: Not readily biodegradable.

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Biodegradability : Result: Readily biodegradable.

acibenzolar-S-methyl:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 0.82 d
Remarks: Product is not persistent.

toluene:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

Azoxystrobin:

Bioaccumulation : Remarks: Does not bioaccumulate.

acibenzolar-S-methyl:

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.1 (77 °F / 25 °C)

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

Mobility in soil

Components:

Azoxystrobin:

Distribution among environmental compartments : Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 81.3 d
Percentage dissipation: 50 % (DT50)

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Remarks: Product is not persistent.

acibenzolar-S-methyl:

Distribution among environmental compartments : Remarks: Low mobility in soil.
Stability in soil : Dissipation time: 0.27 d
Percentage dissipation: 50 (DT50)
Remarks: Product is not persistent.

Other adverse effects

Components:

Azoxystrobin:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

acibenzolar-S-methyl:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

methanol:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

toluene:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
This product will not be classified as a RCRA characteristic hazardous waste when discarded.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

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SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN, ACIBENZOLAR-S-METHYL)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (AZOXYSTROBIN, ACIBENZOLAR-S-METHYL)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN, ACIBENZOLAR-S-METHYL)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

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Not regulated as a dangerous good

Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY 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 as required on the pesticide label:

Caution

Causes moderate eye irritation.

Do not get in eyes or on clothing.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Wear protective eyewear.

Wear long-sleeved shirt and long pants, socks, shoes, and gloves.

Remove and wash contaminated clothing before re-use.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Combustible dust
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

WARNING: This product can expose you to chemicals including kaolin, titanium dioxide, dioxosilane, which is/are known to the State of California to cause cancer, and methanol, toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Regulated Carcinogens

kaolin	1332-58-7
dioxosilane	14808-60-7

SECTION 16. OTHER INFORMATION

Further information

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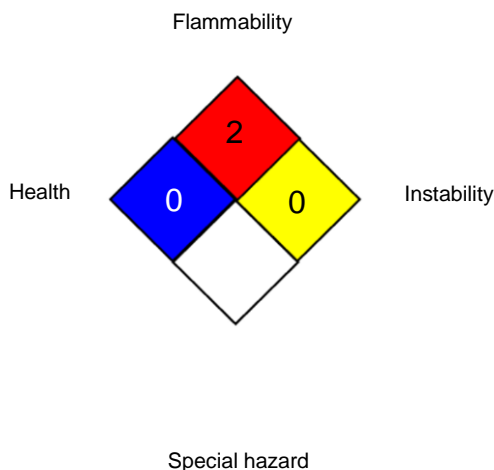
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NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		2
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	:	USA. Occupational Exposure Limits (OSHA) - Table Z-2
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
Syngenta	:	Syngenta Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-2 / TWA	:	8-hour time weighted average
OSHA Z-2 / CEIL	:	Acceptable ceiling concentration
OSHA Z-2 / Peak	:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
OSHA Z-3 / TWA	:	8-hour time weighted average
Syngenta / TWA	:	Time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule;

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ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 01/02/2024

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. 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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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