

Arius™ ADV Fungicide

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name	Mixture
Trade Names	Arius™ ADV Fungicide
CAS No.	Mixture
EPA Identification Number	EPA Reg. No. 60063-57

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

Identified Use(s)	Fungicide
Uses Advised Against	Do NOT aerosolize or atomize to produce inhalable-size particles.

Details of the supplier of the safety data sheet

Company Identification	Sipcam Agro USA, Inc. 2525 Meridian Parkway, Suite 350 Durham, NC 27713 United States of America
Telephone	(919) 226-1195

Emergency telephone number

Emergency Phone No.	CHEMTREC 24 hr. 1-800-424-9300 / 1 (703) 527-3887 (Collect calls accepted)
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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA HCS (29 CFR 1910.1200)	Acute Tox. 2 (Inhalation, Aerosol); Eye Irrit. 2; STOT SE 3; Carc. 2
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Label elements

This chemical is a pesticide product registered by the United States 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 (SDS) and for workplace labels of non pesticide chemicals. The labeling information below applies to non-pesticide workplace labels. For pesticide label information, refer to Section 15.

Hazard Symbol(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Fatal if inhaled (Aerosol).
Causes serious eye irritation.
May cause respiratory irritation (Aerosol).
Suspected of causing cancer.

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Precautionary Statement(s)

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe mist/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Use of high-pressure spray may cause toxic aerosols. Use only outdoors or in a well-ventilated area.

In case of inadequate ventilation wear respiratory protection.

Wash hands and exposed skin after use.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Pesticidal pre-mixture R&D product. Unlikely to be hazardous by inhalation unless present as an aerosol.

Other hazards

Additional Information

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	%W/W	CAS No.	Hazard Statement(s)
Chlorothalonil	40 - 50	1897-45-6	Acute Tox. 2; H330 Eye Dam. 1; H318 * Skin Sens. 1; H317 * Carc. 2; H351 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Azoxystrobin	10 - 15	131860-33-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Other additives / surfactants	2 - 7	Trade Secret	Skin Irrit. 2; H315 Eye Irrit. 2; H319

Additional Information – * Did not produce eye damage, skin irritation, or allergic skin sensitization when this formulated product was tested in accordance with appropriate U.S. EPA guideline protocols. See Section 11.

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Inhalation

Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact

Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.



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Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Ingestion	Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.
Most important symptoms and effects, both acute and delayed	Fatal if inhaled (Aerosol). Causes serious eye irritation.
Indication of any immediate medical attention and special treatment needed	IF INHALED: Immediately call a POISON CENTER or doctor/physician.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media	
-Suitable Extinguishing Media	Non-combustible. As appropriate for surrounding fire.
-Unsuitable Extinguishing Media	None known
Special hazards arising from the substance or mixture	Combustion or thermal decomposition will evolve toxic and irritant vapours. Decontaminate equipment or materials used in pesticide fires.
Advice for fire-fighters	Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Do not get in eyes. Avoid contact with skin. Do not breathe mist/spray. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
Environmental precautions	Avoid release to the environment.
Methods and material for containment and cleaning up	Cover spills with inert absorbent material. Transfer to a container for disposal or recovery. Collect spillage. Wash the spillage area with water. If possible prevent water running into sewers.
Reference to other sections	None
Additional Information	None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Do NOT aerosolize or atomize to produce inhalable-size particles. Do not get in eyes. Avoid contact with skin. Do not breathe mist/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection.
Conditions for safe storage, including any incompatibilities	
-Storage temperature	Store in a well-ventilated place. Keep container tightly closed. Do not allow material to freeze. Store locked up.
-Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Specific end use(s)	For Research and Development or Export ONLY.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA)	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
None	-----	-----	-----	-----	-----	-----

Exposure controls

Appropriate engineering controls

Do **NOT** aerosolize or atomize to produce inhalable-size particles. Use low-pressure coarse spray only.

Personal protection equipment

Eye/face protection



Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)



Gloves (PVC, Neoprene, or Natural rubber).

Respiratory protection



Not normally required.

Thermal hazards

Not normally required.

Environmental Exposure Controls

Do not allow to enter drains, sewers or watercourses. Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid suspension
Color.	Off-white or pale white
Odor	Not available
Odor Threshold (ppm)	Not available
pH (Value)	5.28 @ 25°C
Melting Point/Freezing Point (°C)	Not available
Boiling point/boiling range (°C)	~162
Flash Point (°C)	Non-combustible / Non-flammable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Explosive Limit Ranges	Not applicable
Vapour Pressure (mm Hg)	Not available
Vapour Density (Air=1)	Not available
Density (g/ml)	Not available



Specific Gravity	1.2957
Solubility (Water)	Soluble
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	Non-combustible / Non-flammable
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt)	157.11 @ 25°C
Explosive properties	Not explosive
Oxidizing properties	Not oxidising
Other information	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Incompatible materials.
Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Hazardous decomposition product(s)	Combustion or thermal decomposition will evolve toxic and irritant vapours: acrid smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Information on toxicological effects

Product as formulated:

Acute toxicity (calculated / estimated)	Oral: LD50 ~2866 mg/kg-bw (rats, female) Dermal: LD50 >5050 mg/kg-bw Inhalation: LD50 0.17 mg/L (4 hr) (rat) (Aerosol)
Irritation/Corrosivity	Causes serious eye irritation. Non-irritating to skin.
Sensitization	It is not a skin sensitizer in Guinea pigs.
<u>Chlorothalonil (CAS# 1897-45-6):</u>	
Acute toxicity (calculated / estimated)	Oral: LD50 ~3260 mg/kg-bw (rat) Dermal: LD50 ~2020 mg/kg-bw (rat) Inhalation: LD50 0.1 mg/L (4 hr) (rat) (Inhalable Dust) - May cause respiratory irritation.
Irritation/Corrosivity	Causes serious eye damage.
Sensitization	May cause an allergic skin reaction. Breathing difficulties in sensitized individuals have also been reported.
Repeated dose toxicity	Not to be expected.
Carcinogenicity	Suspected of causing cancer.

NTP	IARC	ACGIH	OSHA
Animal carcinogen	2B	No.	No.

Mutagenicity	Not to be expected.
Reproductive toxicity	Not to be expected.



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Azoxystrobin (CAS# 131860-33-8):

Acute toxicity (calculated / estimated)

Oral: LD50 >5000 mg/kg-bw (rat)
Dermal: LD50 >2000 mg/kg-bw (rat)
Inhalation: LD50 0.96 mg/L (4 hr) (rat, male) 0.69 mg/L (4 hr) (rat, female) (Inhalable Dust)

Irritation/Corrosivity

Slight irritant to eyes and skin.

Sensitization

Not to be expected.

Repeated dose toxicity

Not to be expected.

Carcinogenicity

Not to be expected.

NTP	IARC	ACGIH	OSHA
No.	No.	No.	No.

Mutagenicity

Not to be expected.

Reproductive toxicity

Not to be expected.

SECTION 12: ECOLOGICAL INFORMATION

Chlorothalonil (CAS# 1897-45-6):

Ecotoxicity

Short term

LC50 (96 hour): 0.012 mg/L(fish)
EC50 (48 hour): 0.0342 – 0.143 mg/L (crustacea)

Long Term

Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Not persistent.

Bioaccumulative potential

The substance has low potential for bioaccumulation.

Mobility in soil

The substance has low mobility in soil.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

None known.

Azoxystrobin (CAS# 131860-33-8):

Ecotoxicity

Short term

LC50 (96 hour): 0.47 mg/L(fish)

Long Term

Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Persistent

Bioaccumulative potential

The substance has low potential for bioaccumulation.

Mobility in soil

The product has low mobility in soil.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

Additional Information

None known.



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SECTION 14: TRANSPORT INFORMATION

	Land transport (U.S. DOT)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	----	UN 3082	UN 3082
Proper Shipping Name	Not regulated for ground shipments in the U.S. in non-bulk packaging (<119 gallons).	Environmentally hazardous substance, liquid, n.o.s. (contains Chlorothalonil and Azoxystrobin)	Environmentally hazardous substance, liquid, n.o.s. (contains Chlorothalonil and Azoxystrobin)
Transport hazard class(es)	----	9	9
Packing group	----	III	III
Hazard label(s)	----	Marine Pollutant	Marine Pollutant
Environmental hazards	----	Yes	Yes
Special precautions for user	----	None Assigned	None Assigned
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable			

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or exempt.

EPA FIFRA Information for SDS Section 15 (Regulatory Information):

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non pesticide chemicals.

The hazard information required on the pesticide label is reproduced below:

WARNING

May be fatal if inhaled. Do not breathe spray mist. Wear appropriate respiratory protection. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemically resistant to this product are listed below.

Mixers, loaders, applicators and all other handlers must wear:

- Long sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- NIOSH approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A, or a NIOSH approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.

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

Engineering Controls:

When handlers used closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.



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USER SAFETY RECOMMENDATIONS:

User should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using toilet.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS:

Azoxystrobin is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Chlorothalonil is toxic to aquatic invertebrates and wildlife. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Groundwater Advisory: Azoxystrobin can be persistent for several months or longer. Azoxystrobin has degradation products which have products similar to chemicals which are known to leach through soil into groundwater under certain conditions as a result of label use. Chlorothalonil is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow may result in groundwater contamination.

Surface Water Advisory: Chlorothalonil can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

Notify state and/or Federal authorities and Sipcam Agro USA, Inc. immediately if you observe any adverse environmental effects due to use of this product.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	-----	-----	-----

SARA 311/312 - Hazard Categories:

Fire Sudden Release Reactivity Immediate (acute) Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
Chlorothalonil	1897-45-6	~44

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)	TPQ (Pounds)
None	-----	-----	-----	-----

Proposition 65 (California):

Chemical Name	CAS No.	Typical %wt.	Hazards
Chlorothalonil	1897-45-6	40 - 50	Cancer
Hexachlorobenzene	118-74-1	Trace	Cancer
Formaldehyde	50-00-0	Trace to none	Cancer



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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1 - 16.

Date of preparation: July 5, 2016

Hazard Statement(s) Listed in: Section 3:

- H314: Causes severe skin burns and eye damage.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H330: Fatal if inhaled.
- H331: Toxic if inhaled.
- H351: Suspected of causing cancer.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- H411: Toxic to aquatic life with long lasting effects.

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Sipcam Agro USA, Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Sipcam Agro USA, Inc. accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.