

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name	Mixture
Trade Names	Ariston
CAS No.	Mixture
EPA Identification Number	EPA Reg. No. 60063-53

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

Identified Use(s)	Fungicide
Uses Advised Against	It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Details of the supplier of the safety data sheet

Company Identification	Sipcam Agro USA, Inc. 2525 Meridian Parkway 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; Skin Sens. 1B; Carc. 2; Repr. 2; STOT SE 3; STOT RE 2
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Label elements

This is a pesticide product registered with 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).
 May cause an allergic skin reaction.
 Suspected of causing cancer.
 Suspected of damaging the unborn child.
 May cause respiratory irritation (Aerosol).
 May cause damage to organs through prolonged or repeated exposure: Blood, Thymus

Precautionary Statement(s)

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe mist/vapours/spray.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wear respiratory protection.
 Wash hands and exposed skin thoroughly after handling.
 Contaminated work clothing should not be allowed out of the workplace.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing is laboured, administer oxygen. Treat symptomatically.
 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: Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If irritation (redness, rash, blistering) develops, get medical attention. Treat symptomatically. Contaminated clothing should be laundered before reuse.
IF exposed or concerned: Get medical advice/attention. Treat symptomatically.
 Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.
 Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice. Observe directions on label and instructions for use. See Also Section 15.

Other hazards

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

Additional Information

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	%W/W	CAS No.	Hazard Statement(s)
Chlorothalonil	~ 38	1897-45-6	Acute Tox. 2; H330 Eye Dam. 1; H318 Skin Sens. 1B; H317 Carc. 2; H351 STOT-SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Cymoxanil	~ 5	57966-95-7	Acute Tox. 4; H302 Skin Sens. 1; H317 Repr. 2; H361d STOT- RE 2; H373 Aquatic Acute 3; H402 Aquatic Chronic 1; H410

Additional Information – None

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/doctor. If breathing is laboured, administer oxygen. Treat symptomatically.
Skin Contact	Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If irritation (redness, rash, blistering) develops, get medical attention. Treat symptomatically. Contaminated clothing should be laundered before reuse.
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	Do not give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell. Rinse mouth.
Most important symptoms and effects, both acute and delayed	Fatal if inhaled. May cause an allergic skin reaction.
Indication of any immediate medical attention and special treatment needed	Call a POISON CENTER or doctor/physician if you feel unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media	
-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or water spray.
-Unsuitable Extinguishing Media	None known.
Special hazards arising from the substance or mixture	Combustion or thermal decomposition will evolve toxic and irritant vapours. Forms oxides of carbon and nitrogen, also chlorine and chlorinated compounds. 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, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist/vapours/spray. Wear suitable respiratory protective equipment if exposure to high levels of material are likely.
Environmental precautions	Observe directions on label and instructions for use. See Also Section 15.
Methods and material for containment and cleaning up	Observe directions on label and instructions for use. See Also Section 15.
Reference to other sections	Observe directions on label and instructions for use. See Also Section 15.
Additional Information	None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Do not breathe mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Wash hands and exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Observe directions on label and instructions for use. See Also Section 15.
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Conditions for safe storage, including any incompatibilities

-Storage temperature	Store at room temperature. Do not allow material to freeze.
-Incompatible materials	Strong oxidising agents. Substances that react with water.

Specific end use(s) Fungicide

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. Observe directions on label and instructions for use. See Also Section 15.

Personal protection equipment

Eye/face protection



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

Skin protection (Hand protection/ Other)



Gloves. Observe directions on label and instructions for use. See Also Section 15.

Respiratory protection



Observe directions on label and instructions for use. See Also Section 15.

Thermal hazards

Not normally required.

Environmental Exposure Controls

Do not allow to enter drains, sewers or watercourses. Observe directions on label and instructions for use. See Also Section 15.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Colour.	White
Odour	Mild
Odour Threshold (ppm)	Not available.
pH (Value)	3.67
Melting Point (°C) / Freezing Point (°C)	Not available.
Boiling point/boiling range (°C):	Not available.
Flash Point (°C)	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.



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Explosive Limit Ranges	Not available.
Vapour pressure (Pascal)	Not available.
Vapour Density (Air=1)	Not available.
Density (g/ml)	1.2074-1.238 g/mL
Solubility (Water)	Not available.
Solubility (Other)	Not available.
Partition Coefficient (n-Octanol/water)	Not available.
Auto Ignition Point (°C)	Not available.
Decomposition Temperature (°C)	Not available.
Kinematic Viscosity (cSt)	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	No hazardous reactions known if used for its intended purpose.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Incompatible materials
Incompatible materials	Strong oxidising agents. Alkalis. Acids. Substances that react with water.
Hazardous decomposition product(s)	Combustion or thermal decomposition will evolve toxic and irritant vapours. Forms oxides of carbon and nitrogen, also chlorine and chlorinated compounds. Decontaminate equipment or materials used in pesticide fires.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Information on toxicological effects

Substances

Not applicable

Mixtures

Acute toxicity

Oral: LD50 >5000 mg/kg-bw (rat)
Dermal: LD50 >5050 mg/kg-bw (rat)
Inhalation: LC50 >2.12 mg/L (rat)(Aerosol)

Skin corrosion/irritation

Unlikely to cause skin irritation.

Serious eye damage/irritation

Unlikely to cause eye irritation.

Respiratory or skin sensitization

Not available.

Germ cell mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

STOT - single exposure

Not available.

STOT - repeated exposure

Not available.

Aspiration hazard

Not available.

Substances in preparations / mixtures

Chlorothalonil (CAS#1897-45-6):

Acute toxicity

Oral: LD50 ~3260 mg/kg-bw (rat)
Dermal: LD50 ~2020 mg/kg-bw (rat)
Inhalation: LC50 0.1 mg/L (4 hr) (rat) (Inhalable Dust) - May cause respiratory irritation

Irritation/Corrosivity

Causes serious eye damage.

Sensitization

Based on reliable animal studies, the substance is not a skin sensitizer except possibly in the presence of a carrier solvent such as acetone. The substance may be a weak skin sensitizer based on a relatively small number of physician's clinical reports from exposed workers and, therefore, the potential for skin sensitization cannot be completely ruled out.

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.

Cymoxanil (CAS# 57966-95-7):

Acute toxicity (60% active)

Oral: LD50 = 433 mg/kg-bw (rat)
Dermal: LD50 >5000 mg/kg-bw (rat)
Inhalation: LC50 = 5.01 mg/L (4 hr) (rat) (Inhalable Dust)

Irritation/Corrosivity

Unlikely to cause eye irritation. Unlikely to cause skin irritation.

Sensitization

Not to be expected.

Repeated dose toxicity

May cause damage to organs through prolonged or repeated exposure: Blood, Thymus. LOEL (Oral, dog) = 100 ppm

Carcinogenicity

Not to be expected.

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

Mutagenicity

Not to be expected.

Reproductive toxicity

Suspected of damaging the unborn child. NOEL = 4 mg/kg-day

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chlorothalonil (CAS# 1897-45-6):

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.

Cymoxanil (CAS# 57966-95-7):

Short term (60% active)

LC50 (96 hour): 29 mg/L(fish)
EC50 (48 hour): 10.7 mg/L (*Daphnia magna*)
EC50 (72 hour): >10 mg/l (*Pseudokirchneriella subcapitata*)

Long Term

NOEC (21 days): 0.067 mg/L (*Daphnia magna*)

Persistence and degradability

Part of the components are poorly biodegradable.

Bioaccumulative potential

Not determined.

Mobility in soil

Not determined.

Results of PBT and vPvB assessment

Not classified as PBT.

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. Observe directions on label and instructions for use. See Also Section 15.
Additional Information	None known.

SECTION 14: TRANSPORT INFORMATION

	Land transport (U.S. DOT) *	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	Not classified as dangerous for transport. *	UN 3082	UN 3082
Proper Shipping Name		Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil & Cymoxanil)	
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

* For bulk shipments in U.S., can be shipped as UN3082, Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil & Cymoxanil), 9, PG III

SECTION 15: REGULATORY INFORMATION

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

TSCA (Toxic Substance Control Act) - Inventory Status: This is a registered pesticide product regulated under Federal Insecticide, Fungicide, and Rodenticide Act and, therefore, the components of this product are not subject to listing on the TSCA inventory.

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

This is a pesticide product registered with 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:

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE):

Mixers, loaders, applicators must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Potatoes

- Mixers/Loaders supporting aerial applications for potatoes must wear chemical resistant gloves such as nitrile rubber, neoprene rubber, barrier laminate, polyvinyl chloride (PVC), or viton.

Mechanical Pressurized Handgun

- Mixer, loaders, applicators using mechanically-pressurized handguns must also wear chemical resistant gloves such as nitrile rubber, neoprene rubber, barrier laminate, polyvinyl chloride (PVC), or viton.

Follow 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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

Engineering Controls:

Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40 CFR 170.305]

Environmental Hazards:

This product 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 from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Ground Water Advisory

Chlorothalonil degradates are known to leach through soil into ground water 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 ground water contamination.

Surface Water Advisory

Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. 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 overlying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

The pesticide label also includes other important information, including directions for use.

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

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

SARA 311/312 - Hazard Categories: See SECTION 2 - HAZARDS IDENTIFICATION

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
Chlorothalonil	1897-45-6	~ 38

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	~ 38	Cancer

SECTION 16: OTHER INFORMATION

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

Date of preparation: November 30, 2021

Hazard Statement(s) and Risk Phrases Listed in: SECTION 2:/ SECTION 3:

Hazard Statement(s)

- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H302: Harmful if swallowed.-
- H330: Fatal if inhaled.
- H335: May cause respiratory irritation.
- H351: Suspected of causing cancer.
- H361d: Suspected of damaging the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H400: Very toxic to aquatic life.
- H402: Harmful to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.



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