

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : Tepera fungicide
 Other means of identification : EPA Reg. # 66330-432

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

Use of the substance/mixture : Fungicide

1.3. Details of the supplier of the safety data sheet

Arysta LifeScience North America LLC
 15401 Weston Parkway, Suite 150
 Cary, NC 27513 – USA

1.4. Emergency telephone number

Emergency number : Exposure Calls (PROPHARMA): 1-866-303-6952 or +1-651-603-3432 (international)
 Spill Calls (CHEMTREC): 1-800-424-9300 or +1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Eye Irrit. 2B H320
 STOT RE 1 H372
 Aquatic Chronic 2 H411

Full text of H statements : see section 16

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS08

GHS09

Signal word (GHS) :

Danger

Hazard statements (GHS) :

H320 - Causes eye irritation
 H372 - Causes damage to organs through prolonged or repeated exposure
 H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS) :

P260 - Do not breathe mist, spray, vapours
 P264 - Wash hands thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P273 - Avoid release to the environment
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P314 - Get medical advice/attention if you feel unwell
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P391 - Collect spillage
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS)

37.83 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
 38.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
 38.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% (w/w)	GHS classification
Fluoxastrobin	(CAS No) 361377-29-9	19.67	Acute Tox. 4 (Inhalation:dust,mist), H332 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
sodiummethylnaphthalenesulphonate	(CAS No) 26264-58-4	2.64 - 3	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
D-Glucopyranose, oligomeric, C9-11-alkyl glycosides	(CAS No) 132778-08-6	1.6 - 2	Eye Dam. 1, H318
Silane, dichlorodimethyl-, reaction products with silica	(CAS No) 68611-44-9	1	Acute Tox. 2 (Inhalation:dust,mist), H330
2,4,7,9-tetramethyldec-5-yne-4,7-diol	(CAS No) 126-86-3	0.15	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible)
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Gently wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- First-aid measures after ingestion : Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes damage to organs through prolonged or repeated exposure.
- Symptoms/injuries after skin contact : May cause slight irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : No particular fire or explosion hazard.
- Reactivity : Thermal decomposition generates : Hydrogen cyanide. Hydrogen chloride. Hydrogen fluoride. Carbon monoxide. Nitrogen oxides.

5.3. Advice for firefighters

- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses.
- Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

- Protective equipment : Use personal protective equipment as required. Refer to section 8.2.
- Emergency procedures : Evacuate unnecessary personnel.

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6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required. Refer to section 8.2.
Emergency procedures : Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Absorb and/or contain spill with inert material, then place in suitable container. Clean contaminated surfaces with an excess of water.

6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Do not breathe mist, spray, vapours. Avoid contact with skin, eyes and clothing.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Do not store near food, foodstuffs, drugs, or potable water supplies. Keep container closed when not in use.
Storage area : Store in a dry place.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tepera	
ACGIH	Not applicable
OSHA	Not applicable
sodium methylnaphthalenesulphonate (26264-58-4)	
ACGIH	Not applicable
OSHA	Not applicable
D-Glucopyranose, oligomeric, C9-11-alkyl glycosides (132778-08-6)	
ACGIH	Not applicable
OSHA	Not applicable
Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)	
ACGIH	Not applicable
OSHA	Not applicable
2,4,7,9-tetramethyldec-5-yne-4,7-diol (126-86-3)	
ACGIH	Not applicable
OSHA	Not applicable
Fluoxastrobin (361377-29-9)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

- Appropriate engineering controls : Use only outdoors or in a well-ventilated area.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : Wear suitable gloves.

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Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Long sleeved protective clothing. Foot protection.
Respiratory protection	: None under normal use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Off-white
Odour	: mild
Odour threshold	: No data available
pH	: 7.78 @ 25 °C
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 93 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: Potassium permanganate: exothermic reaction observed.
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 1.1142 g/ml @ 25 °C
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 320 mPa.s @ 25 °C

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Hydrogen cyanide. Hydrogen chloride. Hydrogen fluoride. Carbon monoxide. Nitrogen oxides.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Burning produces irritating, toxic and noxious fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eyes contact

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Acute toxicity : Not classified

Tepera	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.09 mg/l

D-Glucopyranose, oligomeric, C9-11-alkyl glycosides (132778-08-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)	
LD50 oral rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	0.477 mg/l/4h
ATE US (vapours)	0.477 mg/l/4h
ATE US (dust,mist)	0.477 mg/l/4h

Fluoxastrobin (361377-29-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	4.9 mg/l/4h
ATE US (vapours)	4.900 mg/l/4h
ATE US (dust,mist)	4.900 mg/l/4h

Skin corrosion/irritation : Not classified
(Slightly irritant but not relevant for classification)

Serious eye damage/irritation : Causes eye irritation.

Respiratory or skin sensitisation : Not classified.
(No sensitizing reaction was observed for guinea pigs)

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Causes damage to organs through prolonged or repeated exposure.

Fluoxastrobin (361377-29-9)	
NOAEL (oral, rat, 90 days)	1.5 mg/kg bodyweight/day liver effects
Aspiration hazard	: Not classified
Symptoms/injuries after skin contact	: May cause slight irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology – water : Toxic to aquatic life with long lasting effects.

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)	
LC50 fish 1	> 10000 mg/l 96 h Brachydanio rerio
EC50 Daphnia 1	> 1000 mg/l 24 h

Fluoxastrobin (361377-29-9)	
LC50 fish 1	0.435 mg/l 96 h Oncorhynchus mykiss
LC50 other aquatic organisms 1	0.053 mg/l 96 h M. bahia
EC50 Daphnia 1	0.48 mg/l 48 h
LC50 fish 2	0.57 mg/l 96 h Cyprinus carpio ; 0.97 mg/l 96 h Lepomis macrochirus

12.2. Persistence and degradability

Tepera	
Persistence and degradability	May cause long-term adverse effects in the environment.

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Fluoxastrobin (361377-29-9)	
Persistence and degradability	Not rapidly degradable.

12.3. Bioaccumulative potential

Fluoxastrobin (361377-29-9)	
Bioconcentration factor (BCF REACH)	52.1
Log Pow	2.86 @ 20 °C
Bioaccumulative potential	Does not bioaccumulate significantly.

12.4. Mobility in soil

Fluoxastrobin (361377-29-9)	
Ecology - soil	Slightly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Non-Regulated in Non Bulk packages shipped by road or rail in containers ≤ 119 Gallons/450 Liters

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (fluoxastrobin), 9, III

UN-No.(DOT)	: UN3082
Proper Shipping Name (DOT)	: Environmentally hazardous substances, liquid, n.o.s. (fluoxastrobin)
Transport hazard class(es) (DOT)	: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT)	: 9 - Class 9 (Miscellaneous dangerous materials)



Packing group (DOT)	: III - Minor Danger
Dangerous for the environment	: Yes
Marine pollutant	: Yes



Additional information

Other information : No supplementary information available.

ADR

Transport document description	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (fluoxastrobin), 9, III, (E)
Packing group (ADR)	: III
Class (ADR)	: 9 - Miscellaneous dangerous substances and articles
Hazard identification number (Kemler No.)	: 90
Classification code (ADR)	: M6

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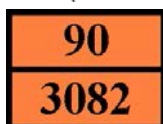
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Danger labels (ADR) : 9 - Miscellaneous dangerous substances and articles



Orange plates :



Tunnel restriction code (ADR) : E

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : E1

Transport by sea

IMDG

Transport hazard class(es) (IMDG) : 9

Danger labels (IMDG) : 9

: Yes



UN-No. (IMDG) : 3082

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (fluoastrobin)

Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Packing group (IMDG) : III - substances presenting low danger

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-F

Air transport

IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA) : 9

: Yes



UN-No. (IATA) : 3082

Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (fluoastrobin)

Class (IATA) : 9 - Miscellaneous Dangerous Goods

Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

sodium methylnaphthalenesulphonate (26264-58-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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D-Glucopyranose, oligomeric, C9-11-alkyl glycosides (132778-08-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

P - P - indicates a commenced PMN substance

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

2,4,7,9-tetramethyldec-5-yne-4,7-diol (126-86-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Fluoxastrobin (361377-29-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

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

EPA Registration Number: 66330-432

FIFRA Signal Word: CAUTION / PRECAUCIÓN

FIFRA Hazard Statement: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing.

FIFRA Other: This pesticide is toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. The active ingredient in this product can be persistent for several months or longer. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark, or other sensitive areas that may be exposed to spray drift. Do not contaminate water when disposing of equipment washwater or rinsate.

15.2. International regulations

National regulations

2,4,7,9-tetramethyldec-5-yne-4,7-diol

Listed on the Canadian DSL (Domestic Substances List) inventory

Listed on the Japanese ENCS (Existing and New Chemical Substances) Inventory

Listed on the KECI (Korean Existing Chemicals Inventory)

Listed on Taiwan National Chemical Inventory

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Fluoxastrobin (361377-29-9)

Not listed on the Canadian DSL (Domestic Substances List) inventory

15.3. US State regulations

No additional information available

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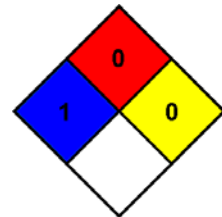
SECTION 16: Other information

- Data sources : ACGIH (American Conference of Government Industrial Hygienists).
Canadian Centre for Occupational Health and Safety. Accessed at:
http://www.ccohs.ca/oshanswers/legisl/whmis_classifi.html.
European Chemicals Agency (ECHA) C&L Inventory database. Accessed at
<http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing",
Fifth Edition.
Manufacturer Information.
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th
edition.
OSHA 29CFR 1910.1200 Hazard Communication Standard.
TSCA Chemical Substance Inventory. Accessed at
<http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.
- Abbreviations and acronyms : ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CFR: Code of Federal Regulations.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
LD50: Lethal Dose for 50% of the test population.
OSHA: Occupational Safety & Health Administration.
STEL: Short Term Exposure Limits.
TSCA: Toxic Substances Control Act.
TWA: Time Weighted Average.
- Other information : None.

Full text of H-statements:

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Redstone SDS USCAN (GHS) for Arysta

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product