Safety Data Sheet

US Hazard Communication Standard 2024 (29 CFR 1910.1200)

SECTION 1: Identification

Product Identifier

Product Name: Doriska

Product code: EPA Reg. No.: 91234-467

Recommended Use of the Chemical and Restrictions on Use:

Recommended Uses: Liquid fungicide

Restrictions on Use: Any use other than specified above

Manufacturer or Supplier Details

Manufacturer:
United States
Atticus, LLC
940 NW Cary Parkway
Suite 200
Cary, North Carolina 27513
(984) 465-4754

Emergency Telephone Number:

For Chemical Emergency
CHEMTREC
1-800-424-9300 (24 hours)
+1-703-527-3887 (24 hours)
Collect calls accepted

For Emergency Medical Treatment Information
SAFETYCALL
1-844-685-9173 (24 hours)

SECTION 2: Hazard Identification

Classification of the chemical in accordance with paragraph (d) of § 1910.1200:

Eye Irritation, category 2
Specific target organ toxicity - repeated exposure, category 2
Acute aquatic hazard, category 1
Chronic aquatic hazard, category 1

Label elements

Hazard Symbol(s):



Signal Word: Warning

Hazard statement(s):

H319 Causes serious eye irritation
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautionary Statement(s):

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P260 Do not breathe mist, vapours or spray.
P264 Wash any exposed skin thoroughly after handling.
P280 Wear protective gloves, protective clothing and eye protection.
P273 Avoid release to the environment.
P314 Get medical advice/attention if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P391 Collect spillage.
P501 Dispose of contents and container in accordance with federal, state and local regulations.

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 119446-68-3	Difenoconazole	32.8
CAS Number: 107-21-1	Ethane-1,2-diol	3-7
CAS Number: 1310-73-2	Sodium hydroxide	2-5

Additional information:

NOTE: Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

SECTION 4: First Aid Measures

Description of Necessary Measures

General Notes:

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information. For Chemical Emergency: spill, leak, fire, exposure or accident, call CHEMTREC day or night within USA and Canada at 1-800-424-9300 or +1-703-527-3887 (collect calls accepted)
Show this Safety Data Sheet to the doctor in attendance

After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention

After Skin Contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

After Eye Contact:

Rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention

After Ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous

vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

Most Important Symptoms and Effects, Both Acute and Delayed

Acute Symptoms and Effects:

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing

Delayed Symptoms and Effects:

May cause damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time)
Effects are dependent on exposure (dose, concentration, contact time)

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Immediate Medical Attention:

No additional information.

Special Treatment:

No additional information.

Notes for the Doctor:

Treat symptomatically

SECTION 5: Firefighting Measures

Extinguishing Media

Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam

Unsuitable Extinguishing Media:

Do not use water jet

Specific Hazards Arising From The Chemical:

Thermal decomposition may produce irritating/toxic fumes/gases

Special Protective Equipment and Precautions for Fire-Fighters

Special Protective Equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode

Special precautions

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution

SECTION 6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided

Methods and Material for Containment and Cleaning Up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13)

SECTION 7: Handling and Storage

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States	Difenoconazole	119446-68-3	TWA: 5 mg/m³ (Industry)
ACGIH	Ethane-1,2-diol	107-21-1	8-Hour TWA: 25 ppm (vapor fraction)
	Ethane-1,2-diol	107-21-1	15-Minute STEL: 50 ppm (vapor fraction)
	Ethane-1,2-diol	107-21-1	15-Minute STEL: 10 mg/m³ (aerosol only, inhalable fraction)
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m³
United States(California)	Ethane-1,2-diol	107-21-1	Ceiling Limit: 100 mg/m³ (40 ppm)
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m³
OSHA	Sodium hydroxide	1310-73-2	8-Hour TWA-PEL: 2 mg/m³
NIOSH	Sodium hydroxide	1310-73-2	IDLH: 10 mg/m³
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m³

Biological Limit Values:

No biological exposure limits noted for the ingredient(s).

Information on Monitoring Procedures:

Not determined or not applicable.

Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Individual Protection Measures, Such as Personal Protective Equipment

Eye and Face Protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by

recognized national standards (or equivalent).

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical state	Liquid
Color	Opaque white
Odor (includes odor threshold)	Mildly sweet
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flammability	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Flash point	> 230 °F (> 110 °C)
Auto-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
pH	4.69 (1% dispersion)
Kinematic viscosity	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Vapor pressure (includes evaporation rate)	Not determined or not available.
Density and/or relative density	1.12 g/cm3 (9.35 pounds/gallon) at 25°C
Relative vapor density	Not determined or not available.
Particle characteristics	Not determined or not available.

Other Information

No additional information.

SECTION 10: Stability and Reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical Stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions, including those associated with foreseeable emergencies:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to Avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible Materials:

None known

Hazardous Decomposition Products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

Acute Toxicity

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

Product Data:

Route	Result
Oral	LD50 Rat: 3129 mg/kg
Dermal	LD50 Rabbit: > 5000 mg/kg
Inhalation ATE	LC50 Calculated: 10.65 mg/L

Substance Data:

Name	Route	Result
Difenoconazole	Oral ATE	LD50 Rat: 1,450 mg/kg
	dermal	LD50 Rabbit: > 2,010 mg/kg
	inhalation	LC50 Rat: > 3.3 mg/L (4 hr [dust])
Ethane-1,2-diol	Oral ATE	LD50 Rat: 500 mg/kg
Sodium hydroxide	oral	LD50 Rat: 325 mg/kg
	dermal	LD50 Rabbit: 1350 mg/kg

Skin Corrosion/Irritation

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

Product Data:

Not classified based on available information.

Substance Data:

Name	Result
Difenoconazole	Slight irritation
Sodium hydroxide	Causes severe skin burns.

Serious Eye Damage/Irritation

Assessment:

Causes serious eye irritation.

Product Data:

Causes moderate eye irritation

Substance Data:

Name	Result
Difenoconazole	Mild irritation reversible in 7 days
Sodium hydroxide	Causes serious eye damage.

Respiratory or Skin Sensitization

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

Product Data:

Not classified based on available information.

Substance Data:

Name	Result
Difenoconazole	Not a dermal sensitizer

Carcinogenicity

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

Product Data: No data available.

Substance Data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

OSHA Carcinogens: Not applicable

Germ Cell Mutagenicity

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

Product Data:

No data available.

Substance Data:

Name	Result
Difenoconazole	No evidence of mutagenic effects.

Reproductive Toxicity

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

Product Data:

No data available.

Substance Data:

Name	Result
Difenoconazole	Animal testing showed effects at levels equal to or above those causing maternal toxicity.

Specific Target Organ Toxicity (Single Exposure)

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

Product Data:

No data available.

Substance Data: No data available.

Specific Target Organ Toxicity (Repeated Exposure)

Assessment:

May cause damage to organs through prolonged or repeated exposure.

Product Data:

No data available.

Substance Data:

Name	Result
Ethane-1,2-diol	May cause damage to Kidneys through prolonged or repeated oral exposure.

Aspiration toxicity

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

Product Data:

No data available.

Substance Data: No data available.

Information on Likely Routes of Exposure:

No data available.

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

No data available.

Interactive effects:

No additional information.

Other Information:

Information in this section is provided from a similar formulation.

SECTION 12: Ecological Information

Ecotoxicity

Acute (Short-Term) Toxicity

Assessment:

Very toxic to aquatic life.

Product Data: No data available.

Substance Data:

Name	Result
Difenoconazole	Fish LC50 Rainbow trout: 0.81 mg/L (96 hr)
	Fish LC50 Bluegill sunfish: 1.2 mg/L (96 hr)
	Fish LC50 Fathead minnow: 1.8 mg/L (96 hr)
	Fish LC50 Sheepshead minnow: 0.82 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 0.77 mg/L (48 hr)
	Aquatic Invertebrates EC50 Mysid shrimp: 0.15 mg/L (48 hr)
	Aquatic Invertebrates EC50 Eastern oyster: 0.42 mg/L (96 hr)
	Aquatic Plants EC50 Navicula pelliculosa: 0.098 mg/L (96 hr)
Ethane-1,2-diol	Aquatic Invertebrates EC50 Daphnia magna: > 100 mg/L (48 hr [immobilisation])
	Fish LC50 Pimephales promelas: 53,000 mg/L (96 hr)
Sodium hydroxide	Aquatic Invertebrates EC50 Ceriodaphnia sp.: 40.4 mg/L (48 hr [immobilization])
	Fish LC50 Fish: 35 - 189 mg/L (96 hr)

Chronic (Long-Term) Toxicity

Assessment:

Very toxic to aquatic life with long lasting effects.

Product Data: No data available.

Substance Data:

Name	Result
Difenoconazole	Fish NOEC Pimephales promelas: 0.0076 mg/L (32 d)
	Aquatic Invertebrates NOEC Daphnia magna: 0.0056 mg/L (21 d)
Ethane-1,2-diol	Fish NOEC Menidia peninsulae: > 40 mg/L (28 d [weight and mortality, Read-across substance data])
	Aquatic Invertebrates NOEC Daphnia magna: > 15,000 mg/L (21 d [reproduction])
	Aquatic Plants NOEC Raphidocelis subcapitata: > 100 mg/L (72 hr [growth rate])

Persistence and Degradability

Product Data: No data available.

Substance Data:

Name	Result
Difenoconazole	The substance is not biodegradable. 0% degradation in water, measured by DOC removal, after 29 days.
Ethane-1,2-diol	The substance is readily biodegradable. 90-100% degradation in water, measured by DOC removal, after 10 days.
Sodium hydroxide	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Difenoconazole	The substance has the potential to bioaccumulate significantly (log Kow: 4.36).
Ethane-1,2-diol	The substance is not expected to bioaccumulate (log Pow: -1.36).
Sodium hydroxide	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
Difenoconazole	The substance is slightly mobile, therefore, adsorption to soil and sediment is expected (log Koc: 3.5).
Ethane-1,2-diol	The end point is not applicable because the the substance has a low octanol water partition coefficient and its relevant degradation products decompose rapidly.
Sodium hydroxide	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.

Results of PBT and vPvB assessment

Product Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.
vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.
vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Other Adverse Effects: No additional information.

SECTION 13: Disposal Considerations

Disposal Methods:

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Do not contaminate water, food, or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging:

CONTAINER DISPOSAL: Nonrefillable and refillable containers. Refer to the product label for specific container disposal instructions.

SECTION 14: Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

Additional Information	This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

International Maritime Dangerous Goods (IMDG)

UN Number	UN3082
UN Proper Shipping Name	Environmentally hazardous substance, liquid, N.O.S. (difenoconazole)
UN Transport Hazard Class(es)	9 
Packing Group	III
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
Additional Information	This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	UN3082
UN Proper Shipping Name	Environmentally hazardous substance, liquid, N.O.S. (difenoconazole)
UN Transport Hazard Class(es)	9 
Packing Group	III
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
Additional Information	This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	Not Applicable
Ship Type	Not Applicable

Pollution Category	Not Applicable

SECTION 15: Regulatory Information

United States Regulations

Inventory Listing (TSCA): All ingredients are listed-active or exempt.

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export Notification under TSCA Section 12(b): None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances: None of the ingredients are listed.

SARA Section 313 Toxic Chemicals:

107-21-1	Ethane-1,2-diol	Listed

CERCLA:

107-21-1	Ethane-1,2-diol	Listed	5000 lbs
1310-73-2	Sodium hydroxide	Listed	1000 lb

RCRA: None of the ingredients are listed.

Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.

Massachusetts Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed

New Jersey Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed

New York Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed

Pennsylvania Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed

California Proposition 65:

⚠ **WARNING:** This product can expose you to Ethane-1,2-diol; which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Additional information: FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). 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. The regulatory information presented outside of this FIFRA section is pertinent only when this product is handled outside of normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA. The following is the hazard information as required on the pesticide label:, PRECAUTIONARY STATEMENTS, HAZARDS TO HUMANS AND DOMESTIC ANIMALS, CAUTION, Causes moderate eye irritation., Avoid contact with eyes or clothing., Harmful if inhaled., Avoid breathing vapor or spray mist., 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., ENVIRONMENTAL HAZARDS, Toxic to fish, shrimp, and other aquatic invertebrates., Do not contaminate water when disposing of equipment washwater or rinsate.

SECTION 16: Other Information

Disclaimer:

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. To the extent consistent with applicable law, neither Atticus, LLC nor Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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End of Safety Data Sheet