

Safety Data Sheet (SDS)

According to UN GHS 9th Ed

Revision Date: 2022/

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Version: 1.5

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: **DAPPER 325 SC**

Relevant identification uses of the substance and uses advised against:

Identified uses: FUNGICIDE

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Green Island Investments Pty Ltd

P.O Box 1822, Heidelberg 1438

Emergency telephone numbers:

Griffon Poison information centre: 082 446 8946

Poisons Information Helpline: 0861 555 777

Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to

SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]	
Hazard classes/Hazard categories	Hazard statement
Oral Acute toxicity (Category 4)	H303
Serious skin irritation (Category 2)	H319
Acute toxicity inhalation (Category 3)	H331
Hazardous to the aquatic environment (Chronic 1)	H410

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None known..

The most important adverse human health effects:

Harmful if swallowed.

Harmful in contact with skin and cause eye irritation.

Toxic if inhaled.

Hazard pictograms:



Signal Word: Warning

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Hazard Statements:

H301: Harmful if swallowed.

H319: Causes serious eye irritation.

H330: May be harmful if inhaled.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P261: Avoid breathing mist, vapours and spray.

P264: Wash hands and face thoroughly after handling.

P264+P265: Wash hands thoroughly after handling. Do not touch eyes.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release into the environment.

P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P284: In case of inadequate ventilation wear respiratory protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.

P301+P316: IF SWALLOWED: Get emergency medical help immediately.

P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER.

P391: Collect spillage.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures: None known.

Other hazards: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

Substance name (IUPAC)	CAS –No.	Concentration % By weight	Classification
	EC-No.		EC1272/2008
Azoxystrobin	1071-83-6	20%	Eye Damage. 1 (H319) Aquatic Chronic 1 (H410)
Difenoconazole	75-31-0	12.5%	Acute Tox. 3; H311 Skin Irritant 1A H Aquatic Chronic 2; H411
1,2-ethandio;	107-21-1		Acute Oral 4; H302

For full text of H statements see section 16

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

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SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention immediately.

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

In case of eye contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

In case of ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Most important symptoms and effects, both acute and delayed:

Anticipated acute effects:

Harmful if swallowed.

Toxic if inhaled.

Causes serious eye irritation.

Anticipated delayed effects:

None known.

Advice to physician:

There is no specific antidote available. Treat symptomatically.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media: Carbon dioxide, foam dry chemical and water fog.

SMALL FIRE: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

LARGE FIRE: Water spray can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Special hazards arising from the mixture:

During a fire, irritating and possibly toxic gasses may be generated by thermal decomposition or combustion. Closed container may explode if pressure builds up. Toxic or irritating gas may be generated during fire.

Advice for fire-fighters:

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an approved/certified respirator or equivalent.

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SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

For emergency responders: Use an approved/certified respirator or equivalent, isolate the spill area and limit the access to emergency responders only. Avoid any contact with spilled material, use adequate protective clothes and gloves.

Environmental precautions:

Cover drains. Prevent from entering soil, ditches, sewers, waterways and/or groundwater.

Methods for containment and cleaning up:

For small spills Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite or diatomaceous earth.

For large spills Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in well labelled container for disposal according to local regulations.

Reference to other sections:

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

Additional information:

None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Use adequate protective equipment to avoid direct contact of product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Toxic if swallowed and fatal if inhaled. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling.

Protective measures: Observe directions on label and instructions for use.

Advice on general occupational hygiene: Do not eat drink or smoke when handling this product.

Conditions for safe storage, including incompatibilities:

Store product in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Specific end uses:

Use as directed. Use original container.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Component	OSHA PEL	NIOSH IDLH
Azoxystrobin	TWA 2mg/m ³ 8 hr	Time weighted average (TWA) is the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.
Difenoconazole	TWA 8mg/m ³ 8 hr	Time weighted average (TWA) is the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Legend

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Appropriate engineering controls: Provide exhaust ventilation or other engineering controls. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Respiratory protection: Respiratory protection is required; use an approved air-purifying respirator.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Liquid.

Colour: White to off white liquid.

Odour: Halide odour..

Odour threshold: No information available.

pH (at concentration): 4.4 to 8.0

Melting point/range (°C): No information available.

Boiling point/range (°C): 101 °C / 0.001 mm Hg..

Flash point (°C): Water based. Does not flash

Evaporation rate: No information available.

Flammability : Not flammable.

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

Vapour pressure (20°C): No information available.

Density: 1.159 g/lit at 20 °C.

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Relative density (25°C): No information available.

Water solubility (g/l) at 20°C: No information available.

n-Octanol/Water partition coefficient: No information available.

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity, dynamic (mPa s): not available

Physical hazards:

Explosive properties: No information available.

Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.

Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

The product is stable under normal conditions.

Chemical stability:

Stable under normal storage conditions for 2 years.

Possibility of hazardous reactions:

Slightly reactive to reactive with reducing agents, alkalis.

Conditions to avoid:

Reducing agents and alkalis.

Incompatible materials:

Reducing agents and alkalis.

Hazardous decomposition products:

No information available.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Effects:

Eyes:

Formulation may cause mild irritation

Skin:

Formulation may cause mild irritation

Dermal sensitization:

Not expected to be a skin sensitizer. Individuals may develop an allergic response.

Ingestion:

Harmful if swallowed.

Oral LD50 rats:

LD50: 7634 mg/kg (calc.)

Dermal LD50 rats:

LD50: >5992 mg/kg (calc.)

Inhalation LC50 (4 hours):

Azoxystrobin: LC50: 0.69 – 0.96 mg/l (4 h, nose only)

Difenoconazole: LC50: >3285 mg/l (4 h)

Other:

Azoxystrobin technical has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, teratogenic neurotoxic or reproductive effects.

Difenoconazole technical has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic or neurotoxic effects..

Azoxystrobin ADI: 0.2 mg/kg b.w.

Difenoconazole: ADI: 0.01 mg/kg b.w [2007]

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SECTION 12. ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation:

Azoxystrobin tech: Animals, in rats, the majority of radiolabeled is excreted in the faeces with little remaining radioactivity in any tissue of the animal. A large number of metabolites were formed of which only the glucuronide of **azoxystrobin** acid is present at > 10% of the administered dose. In goats and hens, **azoxystrobin** is also excreted rapidly, with low residue in milk, meat or eggs. Plants, in wheat, grapes and peanuts metabolism was extensive, but parent **azoxystrobin** was the only major (>10%) residue. Metabolism followed similar pathways in all three crops. Soil/Environment, in soil, DT50 (lab.) 70 d (geometric mean, normalised 20 °C pF2, SFO kinetics). In soil, the dark, up to six identified metabolites were formed, over 120 d, up to 27% of applied radiolabel is involved as CO₂. Dissipation in the field is faster, DT50 (Geometric mean: DT90 94 d (best fit), HS kinetics: DT50 13 d, DT90 236 d). On soil, photolysis DT50 11 d. **Azoxystrobin** is classified as moderately mobile in soil, average K_{oc} for **azoxystrobin** c. 430. Field dissipation studies showed that neither **azoxystrobin** nor its major degradation products were typically found in the soil below the top 15 cm. In water-sediment systems (lab. 20 °C, dark), water phase ave. DT50 6.1 d (SFO). Degradation in atmosphere occurs by reaction with hydroxyl radicals (AOP model), DT50 2.7 h.

Difenoconazole tech: Animals, After oral administration, **difenoconazole** was rapidly eliminated practically to entirely, with urine and faeces. Residues in tissues were not significant and there was no evidence of accumulation. Plants, two major routes of metabolism: one by a triazole route to triazolyllalanine and triazolyllacetic acid; the other by hydroxylation of the phenyl ring, followed by conjugation. Soil/Environment, Practically immobile in soil, strong adsorption to soil particles (mean adsorption coefficient normalised to organic carbon, K_{oc}, ads 4545 ml/g) low potential to leach below top soil layer. Soil dissipation rate is slow and dependent on application rate: DT50 C. 3 mo -1y. Hydrolytically stable at pH 5 - 9 (25°C). Undergoes indirect photosynthesis in (sterile) natural water; DT50 4.6 d. In standard lab. Water-sediment system (n=2) in dark, rapid dissipation from the water, DT50 1 - 3, but slow degradation in whole system, DT50 c. 8 mo.

ECOTOXICOLOGY:

Birds: Low acute risk to birds.

Azoxystrobin tech: Oral LD50: Bobwhite quail & Mallard ducks > 2000 mg/kg.

Dietary LC50: Bobwhite quail & Mallard ducks > 5200 mg/kg

Difenoconazole tech: Oral LD50: (9 - 11 d) mallard duck >2150, Japanese quail >2000 mg/kg b.w.

Dietary LC50: Bobwhite quail 4760, mallard duck >5000 ppm

Fish: Very toxic to fish & *Daphnia*

Azoxystrobin: LC50 (96 h) for rainbow trout 0.47, bluegill sunfish 1.1, carp 1.6, sheepshead minnows 0.66 mg/l and *Daphnia*: EC50 (48 h) 0.28 mg/l

Difenoconazole: LC50 (96 h) for rainbow trout 1.1, bluegill sunfish 1.2, carp 1.6, sheepshead minnows 1.1 mg/l and *Daphnia*: EC50 (48 h) 0.77 mg/l.

Bees:

Azoxystrobin: LD50 honeybees (oral) >25 µg/bee; contact >200 µg/bee

Difenoconazole: none toxic to honeybees LD50: (oral) >187 µg/bee; contact >100 µg/bee

Algae:

Azoxystrobin tech: EC50: *Pseudokirchneriella subcapitata* 0.18 mg/l. EC50 (72h) for diatom *Navicula pelliculose* 0.028 mg/l

Difenoconazole: EC50: (96h) for *Scenedesmus subspicatus* 0.03 mg/l.

Earthworms: Medium toxicity to worms

Azoxystrobin: LC50 (14 d) for earthworms 283 mg/kg.

Difenoconazole: LC50 (14 d) for earthworms >610 mg/kg dry soil.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Consider suitable waste recycling, re-use or recovery options. Dispose of in accordance with municipal, provincial and national regulations. Waste Classification and Management Regulations (GN 634 of 2013). Dispose and or manage in accordance with the requirements contained in R634 Waste Classification & Management Regulations, R635 National Norms & Standards for the Assessment of Waste for Landfill Disposal and R636 National Norms & Standards for Disposal of Waste to Landfill.

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Product/ packaging disposal:

Treat as hazardous waste and dispose of in accordance with municipal, provincial and national regulations.

SECTION 14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	3082	3082	3082
UN Proper shipping name:	ENVIROMENTALLY HAZARDOUS SUBSTANCE, liquid, N.O.S. (Dapper 325 g/lt)	ENVIROMENTALLY HAZARDOUS SUBSTANCE, liquid, N.O.S. (Dapper 325 g/lt)	ENVIROMENTALLY HAZARDOUS SUBSTANCE, liquid, N.O.S. (Dapper 325 g/lt)
Transport hazard class:	9	9	9
Packaging group:	III	III	III
Marine pollutant:	yes	yes	yes
Special precautions for user:	Not required	Not required	Not required
Transport in bulk according to MARPOL 73/78 Annex II and the IBC code	Not required	Not required	Not required

Inland waterways: Not required.

Emergency response information: No information.

SECTION 15. REGULATORY INFORMATION

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

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP].

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No

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SECTION 16. OTHER INFORMATION

Indication of changes:

All sections.

Relevant H statements (number and full text):

Aquatic chronic 1: Hazardous to the aquatic Environment (Chronic 1)

H302: Harmful if swallowed.

H318: Causes serious eye damage.

Training instructions: No special training required. Read label of product.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.