SAFETY DATA SHEET
generated by Regulation (EC) No. 1907/2006

AMISTAR
Version 17.1  Revision Date: 25.01.2017  SDS Number: S151209030 This version replaces all previous versions.

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

1.1 Product identifier
   Trade name: AMISTAR
   Design code: A12705B

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
   Company: Syngenta UK Limited
   CPC4, Capital Park
   Fulbourn
   Cambridge CB21 6AE
   Telephone: (01223) 883400
   Telefax: (01223) 882195
   Website: www.syngenta.co.uk

1.4 Emergency telephone number
   Emergency telephone number: +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Acute toxicity, Category 4 H332: Harmful if inhaled.
   Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.
   Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms:
   Signal word: Warning
   Hazard statements: H332 Harmful if inhaled.
   H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements: EUH401 To avoid risks to human health and the environment, comply with the instructions for use. EUH208 Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

Precautionary statements:

Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P271 Use only outdoors or in a well-ventilated area.

Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. P391 Collect spillage.

Disposal:
P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-Hazardous waste.

Hazardous components which must be listed on the label:

- azoxystrobin

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>azoxystrobin</td>
<td>131860-33-8</td>
<td></td>
<td></td>
<td>Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 20 - &lt; 25</td>
</tr>
<tr>
<td>C16-18 alcohols, ethoxylated</td>
<td>68439-49-6</td>
<td>500-212-8</td>
<td></td>
<td>Acute Tox. 4; H302 Eye Dam. 1; H318</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt</td>
<td>9084-06-4</td>
<td></td>
<td></td>
<td>Skin Irrit. 2; H315 Eye Irrit. 2; H319</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
<tr>
<td>1,2-benzisothiazol-3(2H)-one</td>
<td>2634-33-5</td>
<td>220-120-9</td>
<td></td>
<td>Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400</td>
<td>&gt;= 0.025 - &lt; 0.05</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

- **General advice**: Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

- **If inhaled**: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.

- **In case of skin contact**: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

- **In case of eye contact**: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

- **If swallowed**: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

- **Symptoms**: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- **Treatment**: There is no specific antidote available. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing media**: Extinguishing media - small fires
  - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
  - Extinguishing media - large fires
  - Alcohol-resistant foam or water spray

- **Unsuitable extinguishing media**: Do not use a solid water stream as it may scatter and spread fire.
5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal
feedingstuffs.

Other data : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)
Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>azoxystrobin</td>
<td>131860-33-8</td>
<td>TWA</td>
<td>4 mg/m3</td>
<td>Syngenta</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Engineering measures**

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

**Personal protective equipment**

Eye protection : No special protective equipment required.

Hand protection
   Remarks : No special protective equipment required.

Skin and body protection : No special protective equipment required.
   Select skin and body protection based on the physical job requirements.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
   Suitable respiratory equipment:
   Respirator with a half face mask
   The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Use only respiratory protection equipment with CE-symbol including four digit test number.

Filter type: Combined particulates and organic vapour type (A-P)

Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: liquid

Colour: off-white to yellow-orange

Odour: odourless

pH: 6 - 8
Concentration: 1% w/v

Flash point: > 97 °C (975.0 hPa)
Method: Pensky-Martens closed cup

Density: 1.1 g/cm³ (25 °C)

Auto-ignition temperature: 475 °C

Viscosity:
Viscosity, dynamic: 76.0 - 427 mPa.s (40 °C)
117 - 541 mPa.s (20 °C)

Explosive properties: Not explosive

Oxidizing properties: The substance or mixture is not classified as oxidizing.

9.2 Other information
Surface tension: 32.0 mN/m, 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity
See section 10.3 "Possibility of hazardous reactions".

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid
Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials
Materials to avoid : None known.

10.6 Hazardous decomposition products
Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:
Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : Acute toxicity estimate: 2.69 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:
Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat, male): 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
C16-18 alcohols, ethoxylated:
Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl naphthalenesulfonic acid, sodium salt:
Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

1,2-benzisothiazol-3(2H)-one:
Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation

Product:
Species: Rabbit
Result: No skin irritation
Remarks: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:
Species: Rabbit
Result: No skin irritation

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl naphthalenesulfonic acid, sodium salt:
Species: Rabbit
Result: Irritating to skin.

1,2-benzisothiazol-3(2H)-one:
Result: Irritating to skin.

Serious eye damage/eye irritation

Product:
Species: Rabbit
Result: No eye irritation
Remarks: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:
Species: Rabbit
Result: No eye irritation

C16-18 alcohols, ethoxylated:
Result: Irreversible effects on the eye
naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl naphthalenesulfonic acid, sodium salt:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

1,2-benzisothiazol-3(2H)-one:
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.
Remarks: The toxicological data has been taken from products of similar composition.

Components:
azoxystrobin:
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

1,2-benzisothiazol-3(2H)-one:
Result: Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:
azoxystrobin:
Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:
azoxystrobin:
Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:
azoxystrobin:
Reproductive toxicity - Assessment: No toxicity to reproduction
Repeated dose toxicity

**Components:**

**azoxystrobin:**
Remarks: No adverse effect has been observed in chronic toxicity tests.

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**SECTION 12: Ecological information**

### 12.1 Toxicity

**Product:**

Toxicity to fish
- LC50 (Oncorhynchus mykiss (rainbow trout)): 1.2 mg/l
  - Exposure time: 96 h
  - Remarks: Based on test results obtained with similar product.

- LC50 (Cyprinus carpio (Carp)): 2.8 mg/l
  - Exposure time: 96 h
  - Remarks: Based on test results obtained with similar product.

Toxicity to daphnia and other aquatic invertebrates
- EC50 (Daphnia magna (Water flea)): 0.83 mg/l
  - Exposure time: 48 h
  - Remarks: Based on test results obtained with similar product.

- EC50 (Americamysis bahia (Mysid shrimp)): 0.055 mg/l
  - Exposure time: 96 h

Toxicity to algae
- ErC50 (Selenastrum capricornutum (green algae)): 2.2 mg/l
  - Exposure time: 72 h
  - Remarks: Based on test results obtained with similar product.

- NOEC (Selenastrum capricornutum (green algae)): 0.038 mg/l
- End point: Growth rate

**Ecotoxicology Assessment**

Chronic aquatic toxicity:
- Very toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.

**Components:**

**azoxystrobin:**

Toxicity to fish
- LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l
  - Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates
- EC50 (Daphnia magna (Water flea)): 0.28 mg/l
  - Exposure time: 48 h

- EC50 (Americamysis bahia (Mysid shrimp)): 0.055 mg/l
  - Exposure time: 96 h

Toxicity to algae
- ErC50 (Pseudokirchneriella subcapitata (green algae)): 2 mg/l
  - Exposure time: 96 h

- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.038 mg/l
  - End point: Growth rate
  - Exposure time: 96 h
ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : IC50 (Pseudomonas putida): > 3.2 mg/l
Exposure time: 6 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.16 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 28 d

NOEC: 0.147 mg/l
Species: Pimephales promelas (fathead minnow)
Exposure time: 33 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.044 mg/l
Species: Daphnia magna (Water flea)
Exposure time: 21 d

NOEC: 0.0095 mg/l
Species: Americamysis bahia (Mysid shrimp)
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 10

1,2-benzisothiazol-3(2H)-one:

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.

12.2 Persistence and degradability

Components:

Azoxystrobin:
Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 214 d
Remarks: The substance is stable in water.

12.3 Bioaccumulative potential

Components:

Azoxystrobin:
Bioaccumulation : Remarks: Does not bioaccumulate.
12.4 Mobility in soil

**Components:**

**azoxyastrobin:**
Distribution among environmental compartments: Remarks: Azoxyastrobin has low to very high mobility in soil.

Stability in soil: Percentage dissipation: 50 % (DT50: 80 d)
Remarks: Product is not persistent.

12.5 Results of PBT and vPvB assessment

**Product:**
Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Components:**

**azoxyastrobin:**
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

**Components:**

**azoxyastrobin:**
Additional ecological information: No data available

**C16-18 alcohols, ethoxylated:**
Additional ecological information: No data available

**naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt:**
Additional ecological information: No data available

**1,2-benzisothiazol-3(2H)-one:**
Additional ecological information: No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

| ADN | UN 3082 |
| ADR | UN 3082 |
| RID | UN 3082 |
| IMDG | UN 3082 |
| IATA | UN 3082 |

14.2 UN proper shipping name

| ADN | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN) |
| ADR | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN) |
| RID | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN) |
| IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN) |
| IATA | Environmentally hazardous substance, liquid, n.o.s. (AZOXYSTROBIN) |

14.3 Transport hazard class(es)

| ADN | 9 |
| ADR | 9 |
| RID | 9 |
| IMDG | 9 |
| IATA | 9 |

14.4 Packing group
ADN
Packing group: III
Classification Code: M6
Hazard Identification Number: 90
Labels: 9

ADR
Packing group: III
Classification Code: M6
Hazard Identification Number: 90
Labels: 9
Tunnel restriction code: (E)

RID
Packing group: III
Classification Code: M6
Hazard Identification Number: 90
Labels: 9

IMDG
Packing group: III
Labels: 9
EmS Code: F-A, S-F

IATA (Cargo)
Packing instruction (cargo aircraft): 964
Packing instruction (LQ): Y964
Packing group: III
Labels: Miscellaneous

IATA (Passenger)
Packing instruction (passenger aircraft): 964
Packing instruction (LQ): Y964
Packing group: III
Labels: Miscellaneous

14.5 Environmental hazards
ADN
Environmentally hazardous: yes

ADR
Environmentally hazardous: yes

RID
Environmentally hazardous: yes

IMDG
Marine pollutant: yes

IATA (Passenger)
Marine pollutant: yes

IATA (Cargo)
Marine pollutant: yes

14.6 Special precautions for user
Not applicable
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

- Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable
- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
- Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
- Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

<table>
<thead>
<tr>
<th>E1</th>
<th>ENVIRONMENTAL HAZARDS</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>100 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

Other regulations: Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Approval number, MAPP 18039; PCS No. 01351
Use plant protection products safely. Always read the label and product information before use. Based upon SDS release dated 31/07/2013, version 15 with local amendment.

Full text of H-Statements

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H331: Toxic if inhaled.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.