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

1.1 Product identifier
Trade name
: MEDALLION TL

Product code
: MEDALLION TL

Design code
: A17856B

Product Registration number
: MAPP 15287

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 5XE
United Kingdom

Telephone
: +44 (0) 1223 883400

Telefax
: +44 (0) 1223 882195

E-mail address of person responsible for the SDS
: 

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

Hazard pictograms:

Signal word: Warning

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

Supplemental Hazard Statements:
EUH208 Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements:
Response:
P391 Collect spillage.
P501 Dispose of contents/container to an approved waste disposal plant.

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile</td>
<td>131341-86-1</td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>bronopol (INN)</td>
<td>52-51-7 200-143-0 603-085-00-8</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 0.1 - &lt; 0.25</td>
</tr>
<tr>
<td>1,2-benzisothiazol-3(2H)-one</td>
<td>2634-33-5</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 0.025 - &lt;</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 symptoms known or expected.

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.
5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting: 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). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

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.

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>4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile</td>
<td>131341-86-1</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Syngenta</td>
</tr>
<tr>
<td>Propane-1,2-diol</td>
<td>57-55-6</td>
<td>TWA (particles)</td>
<td>10 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-55-6</td>
<td>TWA (Total vapour and particles)</td>
<td>150 ppm 474 mg/m³</td>
<td>GB EH40</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</td>
<td></td>
<td></td>
<td></td>
<td></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: No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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: suspension

Colour: beige grey to grey green
Odour: sweetish

Odour Threshold: No data available

pH: 5 - 9
Concentration: 1 % w/v

Flash point: > 100 °C (992.0 hPa)
Method: Pensky-Martens closed cup

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Relative vapour density: No data available

Density: 1.06 g/cm³ (20 °C)

Solubility(ies):
Solubility in other solvents: No data available

Partition coefficient: n-: No data available
octanol/water

Auto-ignition temperature : 610 °C

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic :

77 - 233 mPa.s (20 °C)
64 - 196 mPa.s (40 °C)

Explosive properties : Not explosive

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

9.2 Other information
Surface tension : 39.4 mN/m, 0.1 % w/v, 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity
None reasonably foreseeable.

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
MEDALLION TL

Version: 6.0  Revision Date: 07.08.2017  SDS Number: S1427722687  This version replaces all previous versions.

LD50 (Rat, female): 5,000 mg/kg

Acute oral toxicity

LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity

LC50 (Rat, male and female): > 2.59 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity

LD50 (Rat, male and female): > 5,000 mg/kg

Components:

4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:

Acute oral toxicity

LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity

LC50 (Rat, male and female): > 2.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity

LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

bronopol (INN):

Acute oral toxicity

Assessment: The component/mixture is moderately toxic after single ingestion.

Acute dermal toxicity

Assessment: The component/mixture is moderately toxic after single contact with skin.

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

Components:

4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Species: Rabbit
Result: No skin irritation
bronopol (INN):
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

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Species: Rabbit
Result: No eye irritation

bronopol (INN):
Result: Risk of serious damage to eyes.

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

Respiratory or skin sensitisation

Product:
Test Type: Buehler Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
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:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.
Carcinogenicity

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure

Components:
bronopol (INN):
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Repeated dose toxicity

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Remarks: No adverse effect has been observed in chronic toxicity tests.

SECTION 12: Ecological information

12.1 Toxicity

Product:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 5.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 30 mg/l
Exposure time: 48 h

Toxicity to algae:
ErC50 (Pseudokirchneriella subcapitata (green algae)): 5.4 mg/l
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
Exposure time: 96 h

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:
4-(2,2-difluoro-1,3-benzdioxol-4-y)-1H-pyrrol-3-carbonitrile:

Toxicity to fish
- LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l
  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates
- EC50 (Daphnia magna (Water flea)): 0.4 mg/l
  Exposure time: 48 h

Toxicity to algae
- ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l
  Exposure time: 96 h
  NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l
  Exposure time: 96 h
  ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l
  Exposure time: 96 h
  NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l
  End point: Growth rate
  Exposure time: 96 h

M-Factor (Acute aquatic toxicity): 1, M-Factor=1 used for transport classification

Toxicity to microorganisms
- EC50 (activated sludge): > 100 mg/l
  Exposure time: 3 h

Toxicity to fish (Chronic toxicity)
- NOEC: 0.04 mg/l
  Exposure time: 28 d
  Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
- NOEC: 0.035 mg/l
  Exposure time: 21 d
  Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity): 10, M-Factor=1 used for transport classification

Bronopol (INN):
Toxicity to algae
- NOEC (algae): 0.0025 mg/l
  Exposure time: 72 h

M-Factor (Acute aquatic toxicity): 10

M-Factor (Chronic aquatic toxicity): 1

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
1,2-benzisothiazol-3(2H)-one:

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

12.2 Persistence and degradability

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Biodegradability : Result: Not readily biodegradable.

bronopol (INN):
Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Bioaccumulation : Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

12.4 Mobility in soil

Components:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Distribution among environmental compartments : Remarks: immobile
Stability in soil : Dissipation time: 14 d
Percentage dissipation: 50 % (DT50)
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:
4-(2,2-difluoro-1,3-benzdioxol-4-yl)-1H-pyrrol-3-carbonitrile:
Assessment : This substance is not considered to be persistent, bioaccumu-
12.6 Other adverse effects
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.

Waste Code: uncleaned packagings 150110, packaging containing residues of or contaminated by dangerous substances

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. (FLUDIOXONIL)
ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUDIOXONIL)
RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUDIOXONIL)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADN</th>
<th>ADR</th>
<th>RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

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: (-)

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

**IMDG**
- Packing group: III
- Labels: 9

**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
MEDALLION TL

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.
Use plant protection products safely. Always read the label and product information before use.

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
Full text of H-Statements
| H302     | : Harmful if swallowed.               |
| H312     | : Harmful in contact with skin.      |
| H315     | : Causes skin irritation.            |
| H317     | : May cause an allergic skin reaction.|
| H318     | : Causes serious eye damage.         |
| H335     | : May cause respiratory irritation.  |
| H400     | : Very toxic to aquatic life.        |
| H410     | : Very toxic to aquatic life with long lasting effects. |

**Full text of other abbreviations**
- Acute Tox.: Acute toxicity
- Aquatic Acute: Acute aquatic toxicity
- Aquatic Chronic: Chronic aquatic toxicity
- Eye Dam.: Serious eye damage
- Skin Irrit.: Skin irritation
- Skin Sens.: Skin sensitisation
- STOT SE: Specific target organ toxicity - single exposure
- GB EH40: UK. EH40 WEL - Workplace Exposure Limits
- GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)

**Further information**

**Classification of the mixture:**

| Aquatic Chronic 1 | H410 |

**Classification procedure:**
Based on product data or assessment
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.

GB / EN