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

1.1 Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>TOUCHDOWN QUATTRO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design code</td>
<td>A12798QA</td>
</tr>
<tr>
<td>Product Registration Number</td>
<td>MAPP 10608</td>
</tr>
</tbody>
</table>

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

| Use of the Substance/Mixture | Herbicide |

1.3 Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
<th>Syngenta UK Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CPC4, Capital Park</td>
</tr>
<tr>
<td></td>
<td>Fulbourn, Cambridge</td>
</tr>
<tr>
<td></td>
<td>CB21 5XE</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Telephone</td>
<td>+44 (0) 1223 883400</td>
</tr>
<tr>
<td>Telefax</td>
<td>+44 (0) 1223 882195</td>
</tr>
<tr>
<td>E-mail address of person responsible for the SDS</td>
<td><a href="mailto:customer.services@syngenta.com">customer.services@syngenta.com</a></td>
</tr>
</tbody>
</table>

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 2: H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th></th>
</tr>
</thead>
</table>
Hazard statements: H411 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.

Precautionary statements: P102 Keep out of reach of children. P270 Do not eat, drink or smoke when using this product. P391 Collect spillage.

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.

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>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>glyphosate-diammonium</td>
<td>69254-40-6</td>
<td>015-184-00-8</td>
<td></td>
<td></td>
<td>Aquatic Chronic 2; H411</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>D-Glucopyranose, oligomeric, decyl octyl glycosides</td>
<td>68515-73-1</td>
<td>500-220-1</td>
<td>01-2119488530-36</td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

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:
- Nonspecific
- 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 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.
TOUCHDOWN QUATTRO

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.

Further information on storage stability: 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>ammonia, anhydrous</td>
<td>7664-41-7</td>
<td>STEL</td>
<td>50 ppm 36 mg/m³</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7664-41-7</td>
<td>TWA</td>
<td>20 ppm 14 mg/m³</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7664-41-7</td>
<td>TWA</td>
<td>25 ppm 18 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>35 ppm 25 mg/m³</td>
<td>GB EH40</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**: liquid
- **Colour**: light brown to dark brown
- **Odour**: sweetish, weak
- **Odour Threshold**: No data available
- **pH**: 6.8 (25 °C)
- **Melting point/range**: No data available
- **Boiling point/boiling range**: No data available
- **Flash point**: Method: Pensky-Martens closed cup does not flash
- **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
- **Vapour pressure**: No data available
- **Relative vapour density**: No data available
- **Density**: 1.268 g/cm³ (20 °C)
- **Solubility/ies**: Solubility in other solvents: No data available
- **Auto-ignition temperature**: > 650 °C
- **Decomposition temperature**: No data available
- **Viscosity**: Viscosity, dynamic: 71 mPa.s (20 °C)
  - 50 mPa.s (40 °C)
- **Explosive properties**: Not explosive
TOUCHDOWN QUATTRO

Version: 10.1  Revision Date: 22.02.2018  SDS Number: S1101449422
This version replaces all previous versions.

9.2 Other information
Surface tension: 42.6 mN/m, 0.1 %

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
Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Information on likely routes of exposure:
- Ingestion
- Inhalation
- Skin contact
- Eye contact

Acute toxicity

Product:
Acute oral toxicity: LD50 (Rat, female): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat, male and female): > 5.12 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: The toxicological data has been taken from prod-
TOUCHDOWN QUATTRO

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

Skin corrosion/irritation

Product:
Species: Rabbit
Result: Mild skin irritation

Serious eye damage/eye irritation

Product:
Species: Rabbit
Result: No eye irritation

Components:
D-Glucopyranose, oligomeric, decyl octyl glycosides:
Species: Rabbit
Result: Irreversible effects on the eye

Respiratory or skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

Components:
glyphosate-diammonium:
Reproductive toxicity - Assessment: No toxicity to reproduction
Repeated dose toxicity

Components:

glyphosate-diammonium:

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)): 800 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)): 160 mg/l
Exposure time: 48 h
Remarks: Based on test results obtained with similar product.

Toxicity to algae:

EbC50 (Desmodesmus subspicatus (green algae)): 140 mg/l
Exposure time: 72 h
Remarks: Based on test results obtained with similar product.

ErC50 (Desmodesmus subspicatus (green algae)): > 320 mg/l
Exposure time: 72 h
Remarks: Based on test results obtained with similar product.

Ecotoxicology Assessment

Acute aquatic toxicity: Toxic to aquatic life., Classification of the product is based on the summation of the concentrations of classified components.
NOEC (green algae): > 1 mg/l
The value is given in analogy to the following substances: glyphosate (ISO)

Toxicity to fish (Chronic toxicity)
: NOEC: > 25.7 mg/l
Species: Fish
The value is given in analogy to the following substances: glyphosate (ISO)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
: NOEC: 50 mg/l
Species: Invertebrates
The value is given in analogy to the following substances: glyphosate (ISO)

Ecotoxicology Assessment
Acute aquatic toxicity : Toxic to aquatic life.

D-Glucopyranose, oligomeric, decyl octyl glycosides:
Toxicity to microorganisms : EC50 (Pseudomonas putida): > 560 mg/l

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil

Components:
glyphosate-diammonium:
Distribution among environmental compartments : Remarks: immobile

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:
glyphosate-diammonium:
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
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: 150110, packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

14.1 UN number
Not regulated as a dangerous good

14.2 UN proper shipping name
Not regulated as a dangerous good

14.3 Transport hazard class(es)
Not regulated as a dangerous good

14.4 Packing group
Not regulated as a dangerous good

14.5 Environmental hazards
Not regulated as a dangerous good

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


E2 ENVIRONMENTAL HAZARDS 200 t 500 t

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
H318 : Causes serious eye damage.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Aquatic Chronic : Chronic aquatic toxicity
Eye Dam. : Serious eye damage
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information
Classification of the mixture: Aquatic Chronic 2  H411

Classification procedure: On basis of test data.

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