SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier
Trade name Basta® Non-Selective Herbicide
Product code (UVP) 84442615

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

1.3 Details of the supplier of the safety data sheet
Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia
Telephone (03) 9248 6888
Telefax (03) 9248 6800
Responsible Department 1800 804 479 Technical Information Service
Website www.crop.bayer.com.au

1.4 Emergency telephone no.
Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification in accordance with Australian GHS Regulation
Acute toxicity: Category 4
H302 Harmful if swallowed.
Acute toxicity: Category 4
H312 Harmful in contact with skin.
Eye irritation: Category 2A
H319 Causes serious eye irritation.
Reproductive toxicity: Category 1B
H360F May damage fertility.
Reproductive toxicity: Category 2
H361d Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure: Category 2
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

2.2 Label elements
Hazard label for supply/use required.

Hazardous components which must be listed on the label:
Glufosinate ammonium

Signal word: Danger

Hazard statements

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H360F May damage fertility.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P330 Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P305 + P351 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.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards
No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Glufosinate-ammonium 200g/l

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glufosinate ammonium</td>
<td>77182-82-2</td>
<td>18.02</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>&gt;= 1.00 - &lt;= 10.00</td>
</tr>
<tr>
<td>Other ingredients (non-hazardous) to 100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES
If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

4.1 Description of first aid measures

Inhalation
Move to fresh air. Keep patient warm and at rest. If symptoms persist, call a physician.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact
Wash off immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion
Do NOT induce vomiting. Keep at rest. Rinse mouth. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms
Vomiting, Diarrhoea, Abdominal pain, Tremors, Hypotension, Muscular weakness, Unconsciousness, Coma, Convulsions, Respiratory failure, Nausea, Tachycardia. Symptoms may be delayed.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment
In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. Forced alkaline diuresis and hemodialysis may be considered. There is no specific antidote. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Oxygen or artificial respiration if needed. Keep respiratory tract clear. ECG - monitoring (Electrocardiogram). EEG - monitoring (Electroencephalogram). Monitor: respiratory, cardiac and central nervous system. Keep under medical supervision for at least 48 hours.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable
Water spray, Foam, Carbon dioxide (CO2), Dry powder

5.2 Special hazards arising from the substance or mixture

In the event of fire the following may be released: Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Oxides of phosphorus, Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.
Further information
Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.

Hazchem Code
Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Precautions
Use personal protective equipment.

6.2 Environmental precautions
Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up
Methods for cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on safe handling
Use only in area provided with appropriate exhaust ventilation.

Hygiene measures
When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from freezing.

Advice on common storage
Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glufosinate ammonium</td>
<td>77182-82-2</td>
<td>0.9 mg/m3</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS*
8.2 Exposure controls

Respiratory protection
Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection
Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0.4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection
Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection
Wear standard coveralls and Category 3 Type 6 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

General protective measures
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

Engineering Controls
Advice on safe handling
Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form
Liquid

Colour
blue to blue green

Odour
weakly pungent

pH
5.9 - 7.9 at 100 % (23 °C)

Flash point
c.a.60 °C
The product does not sustain combustion.

Upper explosion limit
No data available
### Lower explosion limit
No data available

### Vapour pressure
No data available

### Relative vapour density
No data available

### Density
ca. 1.11 g/cm³ at 20 °C

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

### Partition coefficient: n-octanol/water
Glufosinate-ammonium: log Pow: -4.01 at pH 7

### 9.2 Other information
Further safety related physical-chemical data are not known.

### SECTION 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity
**Thermal decomposition**
Stable under normal conditions.

#### 10.2 Chemical stability
Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions
No hazardous reactions when stored and handled according to prescribed instructions.

#### 10.4 Conditions to avoid
Heat, flames and sparks.

#### 10.5 Incompatible materials
Strong oxidizing agents, Acids, Bases, Alkali metals

#### 10.6 Hazardous decomposition products
Thermal decomposition can lead to release of:
- Ammonia
- Oxides of carbon
- Nitrogen oxides (NOx)
- Oxides of phosphorus
- Sulphur oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Acute oral toxicity**
LD50 (Rat) 1,910 mg/kg

**Acute inhalation toxicity**
LC50 (Rat) 3.22 mg/l
Exposure time: 4 h

**Acute dermal toxicity**
LD50 (Rat) 1,380 mg/kg

**Skin irritation**
Slight irritation (Rabbit)

**Eye irritation**
Moderate eye irritation. (Rabbit)

**Sensitisation**
Non-sensitizing. (Guinea pig)

**Assessment mutagenicity**
Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Assessment carcinogenicity
Glufosinate-ammonium was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction
Implantation loss occurred in a rat multigeneration study with Glufosinate-ammonium. There were no effects on male fertility.

Assessment developmental toxicity
Glufosinate-ammonium caused developmental toxicity only at dose levels toxic to the dams. Glufosinate-ammonium caused an increased incidence of post implantation losses.

Assessment STOT Specific target organ toxicity – repeated exposure
Glufosinate-ammonium caused neurobehavioral effects and/or neuropathological changes in animal studies. Glufosinate-ammonium was well tolerated in rats and mice but less well tolerated in the dog in subchronic studies.

Aspiration hazard
Based on available data, the classification criteria are not met.

Information on likely routes of exposure
Harmful if inhaled.
Harmful if absorbed through skin. Irritating to skin.
Causes eye irritation.
Harmful if swallowed.

Early onset symptoms related to exposure
Refer to Section 4

Delayed health effects from exposure
Refer to Section 11

Exposure levels and health effects
Refer to Section 4

Interactive effects
Not known

When specific chemical data is not available
Not applicable

Mixture of chemicals
Refer to Section 2.1

Further information
No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout))  34 mg/l
Exposure time: 96 h
Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea))  26.8
Exposure time: 48 h
Test conducted with a similar formulation.

Toxicity to aquatic plants

- (Raphidocelis subcapitata (freshwater green alga)) 37 mg/l
  - Exposure time: 48 h
  - Test conducted with a similar formulation.
- (Desmodesmus subspicatus (green algae)) 36 mg/l
  - Exposure time: 72 h
  - Test conducted with a similar formulation.

Toxicity to other organisms

LC50 (Coturnix japonica (Japanese quail)) > 5,000 mg/kg
Exposure time: 8 d
The value mentioned relates to the active ingredient glufosinate-ammonium.

12.2 Persistence and degradability

Biodegradability

- Glufosinate-ammonium: Not rapidly biodegradable

Koc

- Glufosinate-ammonium: Koc: 2.3

12.3 Bioaccumulative potential

Bioaccumulation

- Glufosinate-ammonium: Bioconcentration factor (BCF) < 1
  - Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil

- Glufosinate-ammonium: Highly mobile in soils

12.5 Other adverse effects

Additional ecological information

- No other effects to be mentioned.

SECTION 13. DISPOSAL CONSIDERATIONS

Refillable containers:
If tamper evident seals are broken prior to initial use then the integrity of the contents cannot be assured. Empty container by pumping through dry-break connection system. Do not attempt to breach the valve system or the filling point, or contaminate the container with water or other products. Ensure that the coupler, pump, meter and hoses are disconnected, triple rinsed and drained after each use. When empty, or contents no longer required, return the container to the point of purchase. This container remains the property of Bayer CropScience Pty Ltd.

Metal drums and plastic containers:
Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.
Do not reuse container for any other purpose.
SECTION 14. TRANSPORT INFORMATION

According to national and international transport regulations not classified as dangerous goods.

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 39118

SUSMP classification (Poison Schedule)
Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information
Basta® is a Registered Trademark of the Bayer Group.

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute toxicity estimate</td>
</tr>
<tr>
<td>AU OEL</td>
<td>Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)</td>
</tr>
<tr>
<td>CAS-Nr.</td>
<td>Chemical Abstracts Service number</td>
</tr>
<tr>
<td>CEILING</td>
<td>Ceiling Limit Value</td>
</tr>
<tr>
<td>Conc.</td>
<td>Concentration</td>
</tr>
<tr>
<td>EC-No.</td>
<td>European community number</td>
</tr>
<tr>
<td>ECx</td>
<td>Effective concentration to x %</td>
</tr>
<tr>
<td>EINECS</td>
<td>European inventory of existing commercial substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European list of notified chemical substances</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)</td>
</tr>
<tr>
<td>ICx</td>
<td>Inhibition concentration to x %</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Basta® Non-Selective Herbicide
Version 1 / AUS
Revision Date: 05.10.2016
Print Date: 05.10.2016

LCx  Lethal concentration to x %
LDx  Lethal dose to x %
LOEC/LOEL  Lowest observed effect concentration/level
MARPOL  MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.  Not otherwise specified
NOEC/NOEL  No observed effect concentration/level
OECD  Organization for Economic Co-operation and Development
OES BCS  OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
PEAK  PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID  Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SN  Skin sensitiser
SKIN_DES  SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL  STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
TWA  TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
TWA  Time weighted average
UN  United Nations
WHO  World health organisation

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

END OF SDS