

BARRICADE

Version 3.0 Revision Date: 09.08.2021 SDS Number: S1363371654 This version replaces all previous versions.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : BARRICADE

Design code : A12333G

Manufacturer or supplier's details

Company : Syngenta Australia Pty Ltd (ABN 33 002 933 717)
www.syngenta.com.au

Address : 2-4 Lyonpark Road
Macquarie Park NSW 2113
Australia

Telephone : (02) 8014 5200

Emergency telephone number : 13 11 26 (Poison Information Centre)
1800 033 111 (Syngenta)

Telefax : (02) 8876 8446

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 2.1

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

Chemical name	CAS-No.	Concentration (% w/w)
prodiamine	29091-21-2	>= 30 -< 60
propane-1,2-diol	57-55-6	< 10

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SECTION 4. FIRST AID MEASURES

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|---|---|---|
| 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. |
| In case of eye contact | : | Wash contaminated clothing before re-use.
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. |
| Most important symptoms and effects, both acute and delayed | : | Nonspecific
No symptoms known or expected. |
| Notes to physician | : | There is no specific antidote available.
Treat symptomatically. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|--|
| 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. |
| 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. |
| Specific extinguishing methods | : | Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray. |
| Special protective equipment for firefighters | : | Wear full protective clothing and self-contained breathing apparatus. |
| Hazchem Code | : | •3Z |

SECTION 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
- 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.
- Methods and materials for containment and 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.

SECTION 7. HANDLING AND STORAGE

- 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.
- Conditions for safe storage : 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
prodiamine	29091-21-2	TWA	4 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	TWA (particulate)	10 mg/m ³	AU OEL
		TWA (Total (vapour and particles))	150 ppm 474 mg/m ³	AU OEL

- Engineering measures** : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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

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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

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : No special protective equipment required.
Eye protection : 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.

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.

Personal protective equipment should comply with relevant national standards

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : No data available

Odour Threshold : No data available

pH : 6.68
Concentration: 1 % w/v

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : 99.4 °C
Method: Pensky-Martens closed cup

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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	:	1.17 g/cm ³
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	None known.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Ingestion Inhalation
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Skin contact
Eye contact**Acute toxicity****Product:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity**Components:****prodiamine:**Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicityAcute inhalation toxicity : LC50 (Rat, male and female): > 0.256 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicityAcute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity**Skin corrosion/irritation****Product:**Species : Rabbit
Result : No skin irritation**Components:****prodiamine:**Species : Rabbit
Result : No skin irritation**Serious eye damage/eye irritation****Product:**Species : Rabbit
Result : No eye irritation**Components:****prodiamine:**

Species : Rabbit

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Result : No eye irritation

Respiratory or skin sensitisation**Product:**

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

Components:**prodiamine:**

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

Chronic toxicity**Germ cell mutagenicity****Components:****prodiamine:**

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

Carcinogenicity**Components:****prodiamine:**

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

Reproductive toxicity**Components:****prodiamine:**

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 91 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 12 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.104 mg/l

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Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)):
0.005 mg/l

Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)):
0.0016 mg/l

Exposure time: 72 h

ErC50 (Raphidocelis subcapitata (freshwater green alga)):
0.113 mg/l

Exposure time: 72 h

Components:

prodiamine:

- | | | |
|--|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.829 mg/l
Exposure time: 96 h |
| | | LC50 (Lepomis macrochirus (Bluegill sunfish)): > 0.552 mg/l
Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 0.013 mg/l
Exposure time: 48 h
Remarks: Highest attainable concentration |
| Toxicity to algae/aquatic plants | : | ErC50 (Raphidocelis subcapitata (freshwater green alga)):
0.004 mg/l
Exposure time: 96 h |
| | | NOEC (Raphidocelis subcapitata (freshwater green alga)):
0.00045 mg/l
End point: Growth rate
Exposure time: 96 h |
| | | ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.0047 mg/l
Exposure time: 72 h |
| | | NOEC (Navicula pelliculosa (Freshwater diatom)): 0.0027 mg/l
End point: Growth rate
Exposure time: 72 h |
| M-Factor (Acute aquatic toxicity) | : | 100 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oncorhynchus mykiss (rainbow trout)): 0.012 mg/l
Exposure time: 87 d
Test Type: Early-life Stage |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.0066 mg/l
Exposure time: 21 d |
| M-Factor (Chronic aquatic toxicity) | : | 100 |

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toxicity)

Persistence and degradability**Components:****prodiamine:**

Biodegradability : Remarks: No data available

Stability in water : Degradation half life: 3 - 15 d
Remarks: Product is not persistent.**Bioaccumulative potential****Components:****prodiamine:**

Bioaccumulation : Remarks: Bioaccumulates

Mobility in soil**Components:****prodiamine:**Distribution among environ- : Remarks: immobile
mental compartmentsStability in soil : Dissipation time: 30 - 113 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.**Other adverse effects****Components:****prodiamine:**Results of PBT and vPvB : This substance is not considered to be persistent, bioaccumu-
assessment lating and toxic (PBT). This substance is not considered to be
very persistent and very bioaccumulating (vPvB).**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Do not contaminate ponds, waterways or ditches with chemi-
cal or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incinera-
tion.
If recycling is not practicable, dispose of in compliance with
local regulations.

Contaminated packaging : Non-returnable containers:
Triple rinse containers.
Add rinsings to spray tank
If recycling, replace cap and return clean containers to recy-

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cler or designated collection point. Containers marked with the drumMUSTER container logo can be taken to a drumMUSTER collection site (02 6206 6868, www.drummuster.org.au). Empty containers can be landfilled, when in accordance with the local regulations.

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.

Returnable containers:

Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PRODIAMINE)
Class	: 9
Packing group	: III
Labels	: 9

IATA-DGR

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (PRODIAMINE)
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
Environmentally hazardous	: yes

IMDG-Code

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PRODIAMINE)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

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ADG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PRODIAMINE)
Class	: 9
Packing group	: III
Labels	: 9
Hazchem Code	: •3Z
Remarks	: Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Standard for the Uniform : No poison schedule number allocated

Scheduling of Medicines and Poisons

Prohibition/Licensing Requirements	: There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.
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Product Registration Number	: APVMA Approval No. 62982
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SECTION 16. OTHER INFORMATION

Revision Date : 09.08.2021

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

Full text of other abbreviations

AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

AU OEL / TWA : Exposure standard - time weighted average

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AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; KECI - 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

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