GEM® granules

LONG LASTING GRANULAR HERBICIDE

CONTAINING 40G/KG (4% W/W) PRO PYZAMIDE

Gem Granules is a residual herbicide, acting by uptake through the rots, for pre-emergence use for the control of annual broad-leaved and grass weeds in forestry, amenity vegetation and ornamental plant production.

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Gem® Granules

SAFETY INFORMATION



HAZARD STATEMENT

- Suspected of causing cancer.
- Toxic to aquatic life with long lasting effects.
- To avoid risks to human health and the environment, comply with the instructions for use.



WARNING

Do not contaminate water with the product or its container (Do not clean application equipment near surface water/ avoid contamination via drains from farmyards and roads).

SEE ATTACHED BOOKLET FOR 'DIRECTIONS FOR USE'.

GEM® granules

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CONTAINING 40G/KG (4% W/W) PRO PYZAMIDE

PRECAUTIONARY STATEMENT

- Obtain special instructions before use.
- Avoid release to the environment.
- Wear protective gloves, protective clothing, eye protection and face protection.
- Collect spillage.
- If exposed or concerned get medical advice/attention.
- Dispose of contents/container to a licensed hazardous waste disposal contractor or to a collection site, except for empty clean containers which can be disposed of as non-hazardous waste.

MARKETING COMPANY:

Agrigem Ltd, Gem House, Riverside Enterprise Park
Skellingthorpe Road, Saxilby, Lincoln, LN1 2FU
T: 01522 246491 • www.agrigem.co.uk

® Gem is a registered trademark of Agrigem Ltd

Authorisation Holder:
Certplant B.V.,Lichtenberglaan 2045, 3800
Sint-Truiden, BELGIUM,
Tel: +32 11 88 03 92, Fax: +32 11 70 74 84

CONTENT:

5KG e

MAPP NO 19182

BATCH NUMBER/PRODUCTION DATE: See Packaging

LC20390722-1/3-20410812 UK

GEM® GRANULES

This booklet is part of the approved product label.

IMPORTANT INFORMATION

FOR PROFESSIONAL USE ONLY AS A FORESTRY AND HORTICULTURAL/AMENITY HERBICIDE

Crops/situations	Maximum individual dose: (kg product/ha)	Maximum total dose:	Maximum number of treatments: (per year)	Latest time of application:
Farm forestry, forest	37.5	-	1	-
Amenity vegetation, ornamental plant production (around)	37.5	-	1	-

Other specific restrictions:
Use in ornamental plant production is restricted to application to around Christmas trees (listed species only). Application must only be made between 1st October and 31st January.

READ THIS LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

SAFETY PRECAUTIONS

Operator Protection
Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the product or applying the product.
However engineering controls may replace personal protective equipment if a COSSH assessment shows that they provide an equal or higher standard protection.
IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

Environmental Protection
Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

Storage and Disposal
KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.
EMPTY CONTAINER COMPLETELY and dispose of safely.
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.
KEEP OUT OF REACH OF CHILDREN.

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LC20390722-2/3-20410812 UK

DIRECTIONS FOR USE

IMPORTANT
This information is approved as part of the Product label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

INTRODUCTION
This product is a residual herbicide, acting by uptake through the roots, for the control of annual grass and broad-leaved weeds in amenity vegetation, forestry and ornamental plant production.

The product is taken up by the emerging shoot (especially grasses) or by root absorption soon after germinating.
The product remains effective in the upper soil layer for several weeks.

CROP INFORMATION

Recommended trees and shrubs: the product can be used around all trees and shrubs. Before treating new species or varieties on a large scale test treat a small batch initially to verify for one's self the tolerance of the species/variety to the treatment.

FARM FORESTRY / FOREST
The product is recommended for use on trees (excluding ornamentals) at any stage, either pre-planting or post-planting, provided that they have become established for at least 4 weeks by the earliest time of treatment i.e. 1st October.
If required, land to be planted with well-grown trees (not nursery transplants) may be treated before planting the trees in their final positions. The product may be used amongst the following species: Alder, Beech, Birch, Bishop Pine, Blue Spruce, Corsican Pine, Douglas Fir, Fraser Fir, Grand Fir, Horse Chestnut, Larch, Lawson Cypress, Lodgepole Pine, Monterey Pine, Noble Fir, Nordmann Fir, Norway Spruce, Oak, Poplar, Scots Pine, Sitka Spruce, Southern Beech, Sycamore, Wild Cherry.

AMENITY VEGETATION
The product is recommended for use on ornamental trees and shrubs which have been in their final position for at least one season and have become firmly established. When planted in the spring they may be treated in the following autumn (see Timing of application).

The product may be used amongst the following species: *Berberis darwinii, Buddleia davidii, Chamaecyparis spp* (False cypress), *Cotoneaster spp, Crataegus spp* (Hawthorns), *Fagus sylvatica* (Beech), *Forsythia x intermedia, Ilex aquifolium* (Holly), *Larix decidua* (Larch), *Philadelphus spp* (Mock orange), *Picea spp* (Spruces), *Pinus spp* (Pines), *Prunus gladulosa, Quercus spp* (Oak), *Rosa spp* (Roses including Rose rootstocks), *Spiraea x bumalda ' Froebelii'*, *Syringa vulgaris* (Lilac), *Taxus baccata* (Yew), *Thuja orientalis, 'Rosedalis'*

ORNAMENTAL PLANT PRODUCTION (Restricted to use around listed Christmas tree species only)
The product may be used amongst Christmas trees (Picea abies). Other species that are grown for Christmas tree production may be treated provided the species is included within one of the lists above under FARM FORESTRY / FOREST or AMENITY VEGETATION.
The subject plants must have been in their final position for at least one season and have become firmly established. When planted in the spring they may be treated in the following autumn (see Timing of application).

TIMING OF APPLICATION
For best control, cool, moist soil conditions are required after application.
In southern counties of England and Wales, and on peaty gleys and peat soils with a depth of organic matter greater than 10 cm (4 in), best control is usually achieved with application from 1 October, but no later than the end of January. Local conditions (e.g. altitude, north facing slopes, previous weather) may affect these timings. Should warm, dry conditions prevail after application, weed control may be reduced.

APPLICATION EQUIPMENT
The following Applicators are suitable. Ensure even application
(Horstine Farmery) Motorised Knapsack Sprayer / Stihl SG 17 with granule adaptor
Huntley Applicator, Pepper pot applicator and other specialised rotary spreaders and other application equipment.
Special care must be taken to ensure even distribution of the Granules.

SOIL TYPES
The product can be used on all soil types. However, in common with other residual herbicides, efficacy may be reduced on organic soils, in the presence of excessive organic debris or on ploughed-up turf.

WEATHER CONDITIONS
The product requires moisture for root uptake. Best residual action is obtained in moist, cold soils. The product can be applied in all

weather conditions. Application on top of snow and to severely frozen ground is not recommended where run-off is likely to occur.

CROP RECOMMENDATION PAGES

WEEDS IN FOREST, FARM FORESTRY, AMENITY VEGETATION AND ORNAMENTAL PLANTS

Pre-emergence of the weeds:

Susceptible:

Annual meadow grass	Beats	common couch
Common bent	Yorkshire fog	Yellow Oat-grass
Creeping soft-grass	cock's foot	Crested Dog's-tail
Fescues	False Oat grass	Mat-grass
Meadow Foxtail	Purple Moor-grass	Rough meadow-grass
Ryegrasses	Smooth Meadow-grass	Soft-brome
Sweet Vernal grass	Timothy	Tufted Hair-grass
Wavy Hair-grass	Wood small-reed	Bittersweet
Black-bindweed	Black Nightshade	Broad-leaved Dock
Cleavers	Common chickweed	creeping buttercup
Curled dock	fat-hen	Field horsetail
knotgrass	Redshank	Sheep's sorrel
Small Nettle	Speedwells	

Moderately susceptible:

Common fumitory	Sedges
Shepherd's-purse	

Resistant:

Bracken	Bramble
Briars	Foxglove
Heaths	Rosebary Willowherb

SUCCEEDING CROPS

Number of weeks between last application of the product and drilling or planting a following crop

Following crops	Waiting time when the product previously applied
Lettuce	0 weeks
Field beans, broad beans, peas, chicory, radish, clover, Lucerne	10 weeks
Brassicas, leeks, onions, parsley, parsnips, celery, oilseed rape, strawberries	25 weeks or plant/sow after 15th June, whichever occurs sooner
Cereals and grasses [1]	30 weeks
Any other crop [1]	40 weeks

[1] Treated land must be mouldboard ploughed to a depth of 15 cm prior to drilling a following crop of cereal, grass or any other crop not listed above.

COMPANY ADVISORY INFORMATION

This section is not part of the Product Label under the Plant Protections Product Regulations 1995 or Regulation (EC) No. 1107/2009.

CONDITIONS OF SUPPLY

The manufacturer / seller / registration holder only guarantees that the supplied product complies with the quality standards in force. The manufacturer / seller / registration holder cannot be held liable neither for results nor for any damage due to the storage, transport or application of the product.

SAFETY DATA SHEET
Gem® Granules

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

1.1 Product identifier

Name of the substance: Gem® Granules
Code: MAPP 19182
Formulation type: GR (granule)
Concentration: 40 g/kg (4% w/w)
Active substance: propyzamide
IUPAC-name: 3,5-dichloro-N-(1,1-dimethylprop-2-ynyl)benzamide
Identification number: CAS 23950-58-5
RRN:No registration number is available for this substance, in accordance with the provisions of Article 15 of Regulation (EC) No 1907/2006

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

identified uses: herbicide for professional use

1.3 Details of the supplier of the safety data sheet

Gem House
Riverside Enterprise Park
Skellingthorpe Road
Saxilby
Lincoln,
LN1 2FU

t. 0800 1337849
t. 01522246491

1.4 Emergency telephone number

Please call the local emergency number
Emergency number (24h/24, 7d/7): 0800 1337849

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Carc. 1B, Aquatic Chronic 2
H351, H411

For full text of Hazard-statements see section 16.

2.2 Label elements

Label in accordance with Regulation (EC) No 1272/2008

Hazard pictogram



Signal word
Warning

hazard statement
H351: Suspected of causing cancer.
H411: Toxic to aquatic life with long lasting effects.
EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

precautionary statement
P201: Obtain special instructions before use.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing.
P308 + P313: IF exposed or concerned: Get medical advice/attention.
P391: Collect spillage.
P501: Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

2.3 Other hazards

The active substance does not fulfill the criteria of a persistent, bioaccumulative and toxic (PBT) substance, nor of a very persistent and very bioaccumulative (vPvB) substance, as outlined in Annex XIII of Regulation (EC) No 1907/2006.

Section 3 : Composition/information on ingredients

3.2 Mixtures

Name	Identification number	RRN	% (% by weight)	Classification according to Regulation (EC) No 1272/2008
propyzamide	CAS 23950-58-5	not available	40 g/kg	Carc. 2, Aquatic Acute 1, Aquatic Chronic 1 H351, H400, H410
methanol	CAS 67-56-1	not available	< 0,015% w/w	Flam. Liq. 2, Acute Tox. 3, STOT SE 1 H225, H301, H311, H331, H370
Calcium carbonate	CAS 471-34-1	not available	92% w/w	-

For full text of Hazard-statements see section 16.

Section 4: First aid measures

4.1 Description of first aid measures

If INHALED:
Fresh air, rest. In case of symptoms, seek medical attention and show the label or packaging.
In case of contact with SKIN:
Rinse the skin with plenty of water or take a shower for 15 minutes. Meanwhile, remove contaminated clothing and shoes. In case of symptoms, seek medical attention and show the label or packaging.
In case of contact with EYES:
Rinse thoroughly with water for 10 minutes. Rinse AWAY from the non-affected eye. If wearing contact lenses: if easy to remove, first remove the lenses, then rinse. Consult a doctor and show the label or packaging.
If SWALLOWED:
Rinse the mouth. Call the poison center and ask whether drinking of a solution of activated charcoal in water is recommended. Consult a doctor immediately and show the label or packaging.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician:
Prehospital: symptomatic treatment.
Contact the local poison center (see section 1.4) for further treatment in the hospital.

Section 5 : Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media: chemical powder, water spray, CO2, polyvalent foam.
Unsuitable extinguishing media: Water with full jet

5.2 Special hazards arising from the substance or mixture

The product contains flammable organic substances. In case of a fire, a thick black smoke containing hazardous products of combustion will be generated (see section 10).
Exposure to decomposition products can be harmful to one's health.

5.3 Advice for fire-fighters

Self-contained breathing apparatus and full protective clothing (boots, overall, gloves, eye and face protection).
Avoid discharge of extinguish water into sewer or watercourse.

Section 6 : Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

See section 8

6.2 Environmental precautions

Prevent the product from entering into soil, sewers, surface or ground water. If necessary, isolate the contaminated area. First remove spillage and accidental leaks (see section 6.3). Then rinse the contaminated area with water. Do not allow residues to enter into sewer and surface water. Dispose contaminated water according to local legislation. Inform the authorities if product pollutes the environment.

6.3 Methods and material for containment and cleaning up

6.3.1 Containment of a spill

If applicable, cover spillage with absorbing material (sand, clay, diatomite, universal binders, absorbing grain).

6.3.2 Clean-up of a spill

Spills shall be contained by means of absorbent material and a shovel. The collected products shall be disposed of in re-usable barrels or barrels for waste removal. As soon as the substance has been removed, thoroughly clean up the floor and any object that has been in contact with the substance in compliance with the environmental prescriptions.

6.3.3 Additional information

No additional information

6.4 Reference to other sections

See section 1 contact information
See section 7 for handling and storage
See section 8 for exposure controls/ personal protection
See section 13 for disposal considerations

Section 7 : Handling and storage

7.1 Precautions for safe handling

7.1.1 Protective measurements

Work under local exhaust/ventilation. Observe normal industrial and hygiene standards. Wear personnel protective clothing. Avoid contact with skin and eyes. Avoid forming of aerosol or dust. Wash hands after use. Do not discharge product into sewer. Keep away from source of ignition.

Dust can form an explosive mixture with air. Avoid dust formation. Prevent electrostatic charge.

7.1.2 Advice on general occupational hygiene

When using, do not eat, drink or smoke. Clean used material. Wash hands after each use.
Wash contaminated clothing after use. Remove contaminated clothing and protective equipment before entering eating areas

7.2 Conditions for safe storage, including any incompatibilities

Store in closed packaging in a dry, well ventilated area. Store in original packaging. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. See also section 10.

7.3 Specific end use(s)

See section 1.2.

Section 8 : Exposure controls/personal protection

8.1 Control parameters

8.1.1 Occupational exposure limit values

- Calcium carbonate (CAS471-34-1):
  Limit values (8 h):
  - 10 mg/m³ (inhalable fraction)
  - 4 mg/m³ (respirable fraction)
- Methanol (CAS67-56-1):
  Limit values (8 h): 266 mg/m³ (European Union: 260 mg/m³)
  Limit values (short term): 333 mg/m³

8.1.2 Information on currently recommended monitoring procedures

Not known

8.2 Exposure controls

8.2.1 Appropriate engineering controls

See section 7 and 8.1.1.

8.2.2 Individual protection measures, such as personal protective equipment
8.2.2.1 Eye / face protection
Wear safety goggles, with side-protection.

8.2.2.2 Skin protection

8.2.2.2.1 Hand protection
Wear chemical protective gloves (EN374).

8.2.2.2.2 other
Wear suitable work clothes. (Coverall with full body protection)

8.2.2.3 Respiratory protection
Use always in a well ventilated area.
Only if applicable:
Gas, vapours: gas filter: semi-facial mask with ABEK filter.
Dust, mist, fumes: dust mask : P2FFP2

8.2.3 Environmental exposure controls
See section 6: Accidental release measures
See section 7: storage and handling
See section 13: Disposal considerations

Section 9 : Physical and chemical properties

9.1 Information on basic physical and chemical properties

	Endpoint (unit)
a) Appearance	sand colour granular formulation
b) Odour	slight musty odour
c) Odour threshold	no data available
d) pH	8.6 (1% dilution)
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	not relevant
g) Flash point	not relevant
h) Evaporation rate	no data available
i) Flammability (solid, gas)	not highly flammable

j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.5 g/ml (bulk density)
n) Solubility(ies)	no data available
o) Partition coefficient: n-octanol/water	log Pow = 3.0 (active substance (technical))
p) Auto-ignition temperature	not auto flammable below 400 °C
q) Decomposition temperature	no data available
r) Viscosity	not relevant
s) Explosive properties	no explosive properties
t) Oxidising properties.	no oxidising properties

9.2 Other information
No additional information

Section 10 : Stability and reactivity

10.1 Reactivity
Stable under normal conditions of handling and storage.

10.2 Chemical stability
Stable under normal environmental temperatures (between 0°C and 40°C). See also section 7.2.

10.3 Possibility of hazardous reactions
No specific data known.

10.4 Conditions to avoid
No specific data known.

10.5 Incompatible materials
No specific data known.

10.6 Hazardous decomposition products
Combustion or thermal decomposition produces toxic and irritating vapours. See section 5.2

Section 11 : Toxicological information

11.1 Information on toxicological effects

	endpoint	duration	species	tested on
a) acute toxicity	oral: LD50 > 5000 mg/kg bw	single dose	rat	active substance (technical)
	dermal: LD50 > 2000 mg/kg bw	24 h exposure	rat	active substance (technical)
	inhalation: LC50 > 2.1 mg/l air	4 h exposure	rat	active substance (technical)
b) skin corrosion/ irritation	slightly irritating	4 h exposure	rabbit	active substance (technical)
c) serious eye damage/irritation	not irritating	single dose	rabbit	active substance (technical)
d) respiratory or skin sensitization	non-sensitiser	M&K	guinea pig	active substance (technical)
e) germ cell mutagenicity	no genotoxic potential		multiple in vitro and in vivo test systems	active substance (technical)

f) carcinogenicity	NOAEL = 2.0 mg/kg bw/day	2 year	mouse	active substance (technical)
g) reproductive toxicity	NOAEL/NOEL = 17 mg/kg bw/day	multigeneration study	rat	active substance (technical)
h) STOT-single exposure	no data available			
i) STOT-repeated exposure	no data available			
j) aspiration hazard	no data available			

Section 12 : Ecological information

12.1 Toxicity

	endpoint	duration	species	tested on
Acute toxicity fish	LC50 > 4.7 mg/l	96h	*Oncorhynchus mykiss*	active substance (technical)
Acute toxicity invertebrates	EC50 > 5.6 mg/l	48h	*Daphnia magna*	active substance (technical)
Algae	EC50 = 0.83 mg/l	120h	*S. capricornutum*	active substance (technical)
Aquatic plants	NOEC = 0.56 mg/l	14 d	*lemna sp.*	active substance (technical)

12.2 Persistence and degradability
DT50 (soil): 18.2-85 days (active substance (technical))
DT50 (water): 24 days (active substance(technical))

12.3 Bioaccumulative potential
log Pow = 3.0 (active substance (technical))
BCF (earthworm/soil, fw/fw) = 2.9 (active substance (technical))

12.4 Mobility in soil
Koc = 548 - 1340 l/kg (active substance (technical))

12.5 Results of PBT and vPvB assessment
The active substance does not fulfill the criteria of a persistent, bioaccumulative and toxic (PBT) substance, nor of a very persistent and very bioaccumulative (vPvB) substance, as outlined in Annex XIII of Regulation (EC) No 1907/2006.

12.6 Other adverse effects
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Section 13 : Disposal considerations

13.1 Waste treatment methods
Product waste: prevent spreading. To be disposed of in compliance with local and national prescriptions.
Polluted packages: Do not re-use empty packages. If required, rinse 3 times. To be disposed of in compliance with local and national prescriptions.

Section 14: Transport information

	ADR classification	IMDG classification	IATA classification
14.1 UN number	3077	3077	3077
14.2 UN proper shipping name	environmentally hazardous substance, solid, N.O.S. (propyzamide)	environmentally hazardous substance, solid, N.O.S. (propyzamide)	environmentally hazardous substance, solid, N.O.S. (propyzamide)
14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	yes	yes	yes
14.6 Special precautions for user	Symbols:  Tunnel code: (-)	Symbols: 	Symbols: 
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable for road transport	Not applicable (not transported as bulk)	Not applicable for air transport

Section 15 : Regulatory information

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

SEVESO:
- SEVESO category: E2
- Named dangerous substances: /

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16 : Other information

Relevant H-phrases

H351: Suspected of causing cancer.
H411: Toxic to aquatic life with long lasting effects.
H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.

H331: Toxic if inhaled.
H370: Causes damage to organs.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

List of abbreviations and acronyms
RRN: REACh registration number

Changes to the previous version of safety data sheet.
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The information presented in this SDS is based on the current knowledge of the product and is derived from the existing literature. It is given in good faith and it only illustrates the aspect of security. This SDS is in addition with our information relating to the use of the formulation but in no case replaces it. The users must be aware of the necessary precautions to take at the time of use or handling of this product. Consequently, the company can in, no case, be held responsible for damage which results, directly or indirectly, from the use of these data.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008, Regulation (EU) No 453/2010 and Regulation (EU) No 2015/830.