

SAFETY DATA SHEET



Buster

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6.8B H361	Suspected of damaging fertility or the unborn child.
6.9A H372	Causes damage to organs through prolonged or repeated exposure.
9.1C H412	Harmful to aquatic life with long lasting effects.
9.2B H422	Toxic to the soil environment.
9.3C H433	Harmful to terrestrial vertebrates.

2.2 Label elements

Labelling in accordance with Hazardous Substances Identification Regulations 2001

Hazard label for supply/use required.



Signal word: Danger

Hazard statements

H227	Combustible liquid.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H316	Causes mild skin irritation.
H320	Causes eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
H422	Toxic to the soil environment.
H433	Harmful to terrestrial vertebrates.

Precautionary statements

P102	Keep out of reach of children.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P281	Use personal protective equipment as required.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of water/ soap.
P322	Specific measures (see supplemental first aid instructions on this label).
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P305 + P351 + P338	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.
P391	Collect spillage.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

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P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Soluble concentrate (SL)
Glufosinate-ammonium 200g/l

Hazardous components

Name	CAS-No.	Conc. [%]
Glufosinate ammonium	77182-82-2	18
Alkylethersulfate, sodium salt	68891-38-3	> 10 – < 25
1-Methoxy-2-propanol	107-98-2	> 1 – < 10

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
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	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If eye irritation or redness persists, see an ophthalmologist.
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.
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4.3 Indication of any immediate medical attention and special treatment needed

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Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. 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. 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.

Contact the National Poisons and Hazardous Chemicals Information center in Dunedin, PO Box 913, Dunedin. Phone 0800 POISON (0800 764 766).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

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.

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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** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Protect from freezing. Keep away from direct sunlight.
- Advice on common storage** Keep away from food, drink and animal feedingstuffs.
- Suitable materials** HDPE (1000L IBC)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Glufosinate ammonium	77182-82-2	0,9 mg/m ³ (TWA)		OES BCS*
1-Methoxy-2-propanol	107-98-2	553 mg/m ³ /150 ppm (STEL)	07 2011	NZ OEL
1-Methoxy-2-propanol	107-98-2	369 mg/m ³ /100 ppm (TWA)	07 2011	NZ OEL

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

- 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

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. Dispose of when contaminated

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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.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0,4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

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

Skin and body protection Wear standard coveralls and Category 3 Type 4 suit.
If there is a risk of significant exposure, consider a higher protective type 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 Avoid contact with skin and eyes.

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	60 °C Does not sustain combustion.
Density	ca. 1,11 g/cm ³ at 20 °C
Water solubility	soluble
Partition coefficient: n-octanol/water	Glufosinate-ammonium: log Pow: -4,01 at pH 7

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. Stable under recommended storage conditions.

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- 10.4 Conditions to avoid** Extremes of temperature and direct sunlight.
- 10.5 Incompatible materials** Strong oxidizing agents, Acids, Bases, Alkali metals, Store only in the original container.
- 10.6 Hazardous decomposition products** Ammonia
-

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute oral toxicity** LD50 (Rat) 1.910 mg/kg
Test conducted with a similar formulation.
- Acute inhalation toxicity** LC50 (Rat) 3,22 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.
During intended and foreseen applications, no respirable aerosol is formed.
Test conducted with a similar formulation.
- Acute dermal toxicity** LD50 (Rat) 1.380 mg/kg
Test conducted with a similar formulation.
- Skin irritation** Slight irritant effect - does not require labelling. (Rabbit)
Test conducted with a similar formulation.
- Eye irritation** Irritating to eyes. (Rabbit)
Test conducted with a similar formulation.
- Sensitisation** Non-sensitizing. (Guinea pig)
OECD Test Guideline 406, Buehler test
Sensitising (Mouse)
OECD Test Guideline 429, local lymph node assay (LLNA)
Test conducted with a similar formulation.

Assessment STOT Specific target organ toxicity – single exposure

Glufosinate-ammonium: Based on available data, the classification criteria are not met.

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.

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.

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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.

Aspiration hazard

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

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
Test conducted with a similar formulation.

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) 26,8 mg/l
Exposure time: 48 h
Test conducted with a similar formulation.

Toxicity to aquatic plants EC50 (Desmodesmus subspicatus (green algae)) 36 mg/l
Exposure time: 72 h
Test conducted with a similar formulation.

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 Results of PBT and vPvB assessment

PBT and vPvB assessment Glufosinate-ammonium: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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Product	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Contaminated packaging	Triple rinse containers. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

SECTION 14: TRANSPORT INFORMATION

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

According to ADN/ADR/RID/IMDG/IATA not classified as dangerous goods.

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

14.1 – 14.5 Not applicable.

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Further information

HSNO approval-Nr.	HSR000152
HSNO Controls	See www.epa.govt.nz
ACVM Reg.	P3064
ACVM Condition	See www.foodsafety.govt.nz

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

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
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard

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EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
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
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.

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