



SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd
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Substance: Bromacil, Terbutylazine
Product Name: Comet GR
Product Use: Herbicide
Creation Date: 01 July 2014
Revision Date: August 2019

24 Hr Emergency Number:

In case of Poisoning:

Poisons Helpline 0861 555 777

In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Bromacil, Terbutylazine

Chemical Name: Bromacil: 5-bromo-6-methyl-3-(1-methylpropyl)-2,4(1H,3H)-pyrimidinedione
 Terbutylazine: N²-tert-butyl-6-chloro-N4-ethyl-1,3,5-triazine-2,4-diamine

CAS No.: 314-40-9 and 5915-41-3

Chemical family: Bromacil: Triazine
 Terbutylazine: Uracil

Use: A non-selective root absorbed granular herbicide with extended residual action for the control of undesirable vegetation on non-crop land and on industrial sites.

Formulation: Granule

Hazardous ingredients of toxicological concern:

<u>Ingredient:</u>	<u>concern:</u>	<u>% present:</u>
Bromacil	Harmful, Environmentally Hazardous Substance	8 %
Terbutylazine	Harmful, Environmentally Hazardous Substance	12 %

Symbol: Xn, N

Indication of Danger: Harmful, Environmentally Hazardous Substance

RISK-PHASE(S) R22, R36/38, R52/53

SECTION 3 - HAZARD IDENTIFICATION

Harmful if swallowed.

Irritating to eyes, respiratory system and skin.

Harmful to aquatic organisms – may cause long term effects in aquatic environment

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

Inhalation:

Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth to mouth resuscitation. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **Seek medical advice immediately.**

Skin contact:

Remove contaminated clothing, shoes and leather goods immediately. Gently wipe of excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

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 Spillage Helpline (Spill Tech) 086 100 0366

**Eye contact:**

Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

Ingestion:

Have victim rinse mouth thoroughly with water. **Do not induce vomiting, due to the aromatic solvents. Seek medical advice immediately.** If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

Advice to physician:

No specific antidote. Keep patient under observation and treat symptomatically as indicated by his/her condition.

SECTION 5 - FIRE-FIGHTING MEASURES**Extinguishing agents:**

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment:

Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)**Personal precautions:**

Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

Environmental precautions:

Comet GR is an environmentally hazardous substance and is harmful to aquatic organisms.

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill:

Do not touch spilled material. Keep out unprotected persons and animals.

For spills: Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

Do not get water inside containers.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS**Handling:**

Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

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**Storage:**

Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Storage stability:

Stable for a period of 2 years under normal warehouse conditions.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Personal protective equipment:**Respirator:**

It is usually safe to use the product without respirator. Where exposure through inhalation and eye contact may occur when handling and when preparing the spray mixture, wear a face mask. If the product is used in dusty or confined conditions or spillage and fire conditions a respirator suitable and approved for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing:

Employee must wear appropriate protective (impervious) clothing, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves:

Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection:

The use of chemical resistant goggles or face shield.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form:	Free flowing granules
Colour:	brown / off white
Odour:	odourless
Density (g/ml):	0.8 ± 0.15
Flash point:	None
pH:	5-9
Vapour pressure (mPa):	negligible
Water content (%):	< 2%
Wettability (seconds):	<10secs
Persistent foam:	Max 25 ml after 1 min
Suspensibility:	Min 60%

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Considered stable for a period of 2 years under recommended warehouse conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Effects:**Oral LD₅₀ (rat):**

Bromacil	1414 mg/kg
Terbutylazine	1590 mg/kg

Dermal LD₅₀ (rat):

Bromacil	> 5000 mg/kg (rabbit)
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Inhalation LC ₅₀ (4 hours):	Terbutylazine	> 2000 mg/kg (rats)
	Bromacil	> 5.6 mg/l air
Skin irritation:	Terbutylazine	
	Bromacil	Moderate skin irritant
	Terbutylazine	No skin irritation
Eye irritation:	Bromacil	Mild eye irritant
	Terbutylazine	No eye irritation
Sensitisation:	Bromacil	Data not available
	Terbutylazine	Not a skin sensitizer

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGY:

Bees LD₅₀

Bromacil	193 µg/bee
Terbutylazine	> 200 µg/bee

Birds LD₅₀

Bromacil	2250 mg/kg (bobwhite quail)
Terbutylazine	> 1000 mg/kg (ducks and quail)

Fish LC₅₀ (96h)

Bromacil	36 mg/l (rainbow trout); 127 ppm (bluegill sunfish)
Terbutylazine	2.2 mg/l (rainbow trout); 52 mg/l (bluegill sunfish)

Crustacea LC₅₀ (48h)

Bromacil	121 ppm (Daphnia)
Terbutylazine	69.3 mg/l (Daphnia)

Algae EC₅₀ (72h)

Bromacil	6.8 ppb (<i>Selenastrum capricornutum</i>)
Terbutylazine	0.016 – 0.024 mg/l (<i>Scenedesmus subspicatus</i>)

Persistence / degradability

Bromacil	Duration of residual activity in soil is approximately 5 months
Terbutylazine	DT ₅₀ 6.5-149 days in field studies in biologically active soil

SECTION 13 - DISPOSAL CONSIDERATION

Pesticide disposal:

Do not contaminate rivers, dams or any other water source with chemical or used containers. Drain and triple rinse containers and then destroy by perforation and flattening. Bury in an approved dumping site. Do not re-use containers for any other purpose.

LEAKS/SPILLS:

Do not spill. Dyke spillage and clean up to avoid pollution.

SECTION 14 - TRANSPORT INFORMATION

UN NUMBER:

3077

ROAD TRANSPORT ADR/RID:

Class:

9

Packing group:

III

Shipping name:

Environmentally hazardous substance, solid, n.o.s. (Bromacil 80 g/kg +Terbutylazine 120 g/kg).

AIR IATA:

Class:

9

Packing group:

III

Shipping name:

Environmentally hazardous substance, solid, n.o.s. (Bromacil 80 g/kg +Terbutylazine 120 g/kg).

MARITIME TRANSPORT IMDG/IMO:

Class:

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Packing group: III
Shipping name: Environmentally hazardous substance, solid, n.o.s. (Bromacil 80 g/kg +Terbutylazine 120 g/kg).

SECTION 15 - REGULATORY INFORMATION

Symbol: Xn, N

Indication of Danger: Harmful, Environmentally Hazardous Substance

Risk phrases:

R 22 Harmful if swallowed
R 36/37 Irritating to eyes, respiratory system and skin
R52/53 Harmful to aquatic organisms – may cause long term effects in aquatic environment

Safety phrases:

S 1/2 Keep locked up and out of the reach of children.
S 24/25 Avoid contact with skin and eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release into the environment; refer to special instructions / material safety data sheet.

SECTION 16 - OTHER INFORMATION

Packing and Labelling:

Packed in 1, 5, 10, 20, and 25 kg bags or plastic bottles and labelled according to the South African regulations and guidelines.

Disclaimer:

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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