



WARNING
ECOTOXIC

KEEP OUT OF REACH OF CHILDREN

FIRSTRATE® 450

A non-selective herbicide for the control of many annual and perennial weeds in a wide range of situations.

ACTIVE INGREDIENT: contains 450g/L glyphosate as the isopropylamine salt in the form of a soluble concentrate

GSFR109/F3



FIRSTRATE® 450
NET CONTENTS: 20 Litres

Grosafe®

FIRSTRATE® 450

PEEL HERE



HAZARD CLASSIFICATION: Skin irritation Category 2, Eye irritation Category 2, Hazardous to the aquatic environment chronic Category 2

TOXICITY

WARNING: Irritating to skin. and causes serious irritation to eyes.

ECOTOXICITY: Toxic to aquatic organisms with long lasting effects.

QUALIFIED PERSON: A suitably qualified person is required if this product is applied in a wide dispersive manner, used by a commercial contractor or applied directly into or onto water.

PERSONAL PROTECTION: When mixing wear a face mask or goggles, rubber gloves and overalls. Do not eat, drink or smoke while using. Wash hands and face before meals and after work. Wash protective clothing after use.

STORAGE: Store product in original container, tightly closed, in a cool, dry place. Keep out of reach of children, and away from foodstuffs. Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals. Stores containing more than 1000 L are subject to requirements for signage, secondary containment and emergency response plans.

Shelf life: When stored appropriately this product should show no significant degradation for two years from date of manufacture. Contact your supplier for further information about the use of any product that is older than this.

SPILLS AND DISPOSAL: When dealing with spills wear personal protective clothing and equipment as described in the PERSONAL PROTECTION section. Absorb with sawdust, soil etc. Contain and store in properly labelled, sealed drums for safe disposal. If spray mixture is spilled absorb and collect in drums as above. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

DISPOSAL: Avoid contamination of any water supply with chemical or empty container.

PRODUCT DISPOSAL: If possible dispose of by using according to the label, otherwise dispose of in an approved landfill or bury below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.

CONTAINER DISPOSAL: Triple rinse empty container and add rinsate to the spray tank. Recycle container via Agrecovery (www.agrecovery.co.nz) or at an approved landfill.

SAFETY DATA SHEET: A safety data sheet is available from Grosafe Chemicals Ltd.

FIRST AID:

For advice call the National Poisons Centre (0800 764 766) or a doctor or. If medical advice is needed, have product container or label at hand.

IF SWALLOWED: Rinse mouth. If you feel unwell, get medical advice.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

IF ON SKIN: Wash with plenty of soap and water. If irritation persists, get medical advice.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, get medical advice.

EMERGENCY RESPONSE 0800 CHEMCALL: (0800 243 622).

READ THE ATTACHED BOOKLET COMPLETELY BEFORE MIXING OR APPLYING

Registered pursuant to the ACVM Act 1997, No P7336. See www.foodsafety.govt.nz for registration conditions.
Approved pursuant to HSNO Act 1996, Approval Code HSR 000769. See www.epa.govt.nz for approval conditions.

WARRANTY: This formulation is warranted to contain the specified active ingredient within accepted analytical tolerance when packed. The user bears the risk for damage resulting from factors beyond the manufacturer's control. The manufacturer declines all liability for damage resulting from improper storage or use of the product.

Registered and distributed by: Grosafe Chemicals Ltd
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Batch No:

Date of Manufacture:



GENERAL INFORMATION

FIRSTRATE® 450 is a foliar absorbed and translocated herbicide for control of emerged weeds only and is not residual.

FIRSTRATE® 450 can be deactivated by soil particles and hard water containing calcium salts. If hard water cannot be avoided, the addition of Hybrid® SB is recommended.

Plants should be actively growing, free of stress with clean foliage at time of spraying.

FIRSTRATE® 450 and solutions should only be mixed, contained in or sprayed by equipment made from stainless steel, fibreglass, plastic, aluminium, brass and copper.

WARNING: A highly flammable gas may be formed from the contact of this product with galvanised or unlined steel.

The effects of **FIRSTRATE® 450** may not be apparent for 3 - 7 days depending on the weather conditions, weed species and the herbicide rate used. Some perennial weeds may not show effects for 14 - 21 days.

RESTRICTIONS: Do not spray if rain is likely within 6 hours. Do not allow spray contact with non target plants as severe injury may occur.

DIRECTIONS:

1. Clean spray tank of previous chemical residues, preferably with a chemical residue remover.
2. Half fill spray tank with clean water, add required amount of **FIRSTRATE® 450** then fill with clean water.
3. Add surfactant where required.
4. Agitate well before spraying.
5. When tank mixing with other chemicals, add **FIRSTRATE® 450** after other water soluble products, but before flowables eg. Flowable Simazine.

APPLICATION:

Boom equipment: **FIRSTRATE® 450** can be applied in spray volumes of up to 200 litres per hectare using fan nozzles at pressures in the range of 240 - 280 kPa. Boom height should be set so a double overlap of nozzle pattern is achieved at the top of the target plant.

Aerial equipment: Forest and non crop areas only. **FIRSTRATE® 450** can be applied by aircraft in spray volumes of up to 100 litres per hectare. Increase spray volumes in hilly terrain to ensure maximum target contact. DO NOT use in intensive horticultural cropping areas.

Handgun and Knapsack: Ensure a fine spray pattern to give complete coverage.

Mist blower: Apply to wet foliage surfaces but not to the point of runoff.

Wiper equipment: Mix only enough for immediate use. Plants must be clean and dry and the wiper fully saturated. Apply up and down slopes for effective applications. High weed density: Reduce speed and apply twice in opposing directions.

CLEANING EQUIPMENT:

All spray equipment including pumps, spray tanks, lines and nozzles, landing gear (aircraft) should be thoroughly washed with water after each day of spraying.

DIRECTIONS FOR USE:

It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Levels for Agricultural Compounds.

Withholding period:

Wheat, barley, oat grain - 7 days

SITUATION	CROP	COMMENTS
Drains and waterways		Do not spray until 75% of the weed is above water level. Do not allow submergence for 6 hours post spraying.
Forestry For control of all listed weeds prior to planting offforests or nursery or around established trees.		For rates for weeds see Weed Table. Do not allow spray contact with established trees.
Industrial As a knockdown or selective, herbicide for spot spraying		Treat weeds as per Weed Table.
Market Gardens As a knockdown prior to seeding, transplanting and after harvest clean-up,	All vegetables.	For best results do not disturb weeds by grazing or cultivation for 1 day post spraying of annual weeds and 10 days post spraying of perennial weeds. Cultivate within 21 days of spraying to ensure control. Do not sow until a satisfactory seed bed has been prepared. An appropriate residual herbicide can be used as a tank mix with FIRSTRATE® 450
Minimum Tillage For total weed control prior to seeding.	Cereal, pasture and Leguminous crops.	For best results do not disturb weeds by grazing or cultivation for 1 day post spraying of annual weeds and 10 days post spraying of perennial weeds. To ensure control and avoid respraying newly germinated weeds, work sprayed area by full cultivation or the seeding operation within 3 weeks of spraying. Do not sow until a satisfactory seed bed has been prepared. For improved control of White Clover, tank mix with dicamba 20%ai at 1.5 litres/ha. Observe plant back periods of dicamba for respective crop.
Orchards and vineyards As a knockdown prior to establishment or where plants are 3 years old or older.	Apple, Citrus, Grapevines, Kiwifruit, Pear and Stonefruit	Use as directed or shielded spray. DO NOT let spray contact any green foliage or new growth. Spray before bloom stage of crop. FIRSTRATE® 450 can be tank-mixed with an appropriate herbicide for residual control.
Pre-Harvest Weed Control For control of emerged weeds and as a clean-up to enhance harvesting.	Wheat, Barley, Oats	Spray 7–12 days pre-harvest Do not use as a pre-harvest desiccant. Do not apply more than 3.2 L/ha. Grain moisture should be below 30%. Do not spray seed crops. Do not spray undersown crop.
Recreational areas For weed control prior to establishment and as a clean-up around established areas.	Lawns, Ornamentals, Parks and Reserves.	Established plants: Use a directed or shielded spray or with a wiper around plants avoiding any spray contact on green or growing points of plant.

WEED RECOMMENDATIONS FOR USE

WEED CONTROLLED	APPLICATION RATES				COMMENTS
	BOOM/ AERIAL L/ha	HANDGUN Vol/100L	KNAPSACK Vol/10L	MIST BLOWER Vol/10L	
Annual weeds Amaranth, Barley Grass, Capeweed, Cleavers, Volunteer Cereals, Spiny Emex, Storksbills, Fumitory, Mintweed, Patersons Curse, Prairie Grass, Ryegrass, Saffron Thistle, Vulpia Hairgrass, Sub. Clover, Wild mustard, Wild Turnip	0.8 -1.6 L	160 ml	16ml	50ml	Wiper: 25% solution Use the high rate on weeds greater than 14 cm across or 14 cm high
Australian Sedge	4.8 L	800 ml	80ml	240 ml	Best results when sprayed in Summer. Do not disturb for 4 weeks post treatment. Wiper: 25% solution.
Barberry	–	800 ml	80ml	240 ml	Best results when sprayed in mid to late summer after flowering to full fruit.
Blackberry	7.2 - 16.0 L	0.8 - 1.2 L	80ml	240 ml	Best results when sprayed mid to late summer after flowering to full fruit. Best results when plants have a full canopy and total leaf coverage achieved. Use higher rate on heavy infestations where total coverage may not be achieved. Regrowth can occur after 1-2 years. Do not disturb treated plants until 8 weeks post treatment.
Boxthorn	–	1 L	80ml	–	Apply to actively growing plants (Nov-Apr). Ensure complete coverage of dense thickets. Do not use extra surfactant or treat salt damaged bushes.
Bracken	7.2 L	800 ml	80ml	240 ml	Spray mid Summer to mid Winter when fronds are open. Burning after treatment will help pasture establishment. The addition of Force® Penetrant at 250 ml/100 litres is recommended.
Broom	7.2 L	800 ml	80ml	240 ml	Spray late Spring to early Summer when plants are in full leaf. The addition of Force® Penetrant at 250 ml/100 litres is recommended.
Browntop	2.4 L	400 ml	40ml	120 ml	If plants are greater than 10 cm high, graze or burn then treat regrowth. The addition of Force® Penetrant is recommended at 200ml /100 litres.

WEED CONTROLLED	APPLICATION RATES				COMMENTS
	BOOM/ AERIAL L/ha	HANDGUN Vol/100L	KNAPSACK Vol/10L	MIST BLOWER Vol/10L	
Buddleja	7.2 L	800 ml	80 ml	–	Spray late Spring to early Summer when plants are in full leaf. The addition of Force® Penetrant at 250ml/100 litres is recommended.
Californian Thistle	3.2 L	800 ml	80 ml	240ml	Spray plants after flower bud stage. Improved results obtained when thistles are mowed 10 days post spraying.
Couch	2.4 - 4.8 L	800 ml	80 ml	240ml	Spray at early seedhead stage when plants are actively growing. Use the low rate for suppression only. Pre-harvest: Use 3.2 litres/ha. FIRSTRATE® 450 will not control unemerged growth.
Dock	7.2 L	800 ml	80 ml	–	Best results when sprayed Spring/ Summer before seed-heads have formed.
Floating Sweet Grass, Reed Sweet Grass	4.8 L	800 ml	80 ml	240ml	Best results when sprayed in Summer. Do not disturb for 4 weeks post treatment.
Gorse	–	800 ml	–	–	Use Force® Penetrant at 200ml/100 litres. Spray when plants are at early seedhead. Ensure complete coverage. Regrowth may occur after a year. Re-treat if required.
Indian Doab, Mercer Grass (Aquatic)	7.2 L	800 ml	80 ml	–	Best when plants are in the early seedhead stage.
Johnson Grass, Kikuyu, Mercer Grass (Non Aquatic).	4.8 L	800 ml	80 ml	240ml	Best results when plants are in the early seedhead stage.
Nodding Thistle	–	800 ml	80 ml	–	Wiper: 25% solution. A double pass may be required for good coverage. When applying by water ensure plants are actively growing (Oct - Apr) when at least 10 cm of the plant can be wiped. A double pass is recommended and follow-up with spot treatments if necessary.
Old Mans Beard	–	0.8 - 1.6 L	160 ml	–	Apply before the first leaf browns off. Use the higher rate on plants with stems greater than 1cm in diameter. If complete coverage is not possible, cut plants in the winter and treat at the high rate when regrowth is at 0.5 - 1.0 min length.
Pampas Grass, Toetoe	–	0.8 - 1.6 L	160 ml	–	Spray Spring to Autumn. Do not spray flowering plants.
Paspalum	3.2 L	800 ml	80 ml	240ml	Spray when plants are at early seedhead.

WEED CONTROLLED	APPLICATION RATES				COMMENTS
	BOOM/ AERIAL L/ha	HANDGUN Vol/100L	KNAPSACK Vol/10L	MIST BLOWER Vol/10L	
Potato (self-set)	2.4 L	400 ml	40ml	120ml	
Ragwort	4.8 L	800 ml	80ml	–	Ensure adequate leaf area for spray uptake. Plants should be above pasture to avoid non-target contact. Use a double pass for best results. Plants become more palatable to stock after treatment so remove until browning occurs.
Ratstail	4.8 L	800 ml	80ml	–	Use high water volumes (200 litres/ha) in Autumn when foliage is green. Do not disturb treated plants for 21 days post spraying.
Rautahi (Cutty Grass), Rushes, Tall Fescue	4.8 L	800 ml	80ml	240ml	Spray Jan-March. Do not burn or slash for 4 weeks post spraying.
Ring Fern	0.8 - 2.4 L	240 ml	25ml	–	Use the high rate for control. Use 1.0-2.0 litres/ha for Pasture Manipulation.
Ryegrass (Perennial)	1.2 - 2.4 L	–	–	–	Use the low rate only when cultivation is to follow treatment. Use Force® Penetrant at 200ml/100 litres.
Sweet Briar	9.6 L	800 ml	80ml	–	Add Force® Penetrant at 250ml/100 litres. Spray to ensure full coverage: any time from late flowering to early leaf yellowing.
Willow	7.2 L	800 ml	40ml	–	Spray from mid to late Summer. Ensure good coverage.
Yarrow	2.4 - 4.8 L	–	–	–	For best results cultivation should follow treatment. Only use the low rate when a competitive crop is planted after treatment.