

Criteria	Criteria Interpretation	Range Guide	Esplanade (Indaziflam)	Terbacil	Bromacil	Sulfometuron Methyl	Hexazinone	Summary: Esplanade vs Others
Active Ingredient (AI) load – per hectare	Lower AI per hectare reduces environmental risk to non-target organisms, chemical footprint, and costs.	< 100 g/ha = low load >100 g/ha = moderate to high load	75g/ha	440-880g/ha	2.8-5.2kg/ha	150-600g/ha	3.25-13.5kg/ha	Much lower (75 g/ha) vs others (440 g to 13.5 kg/ha), implying lower environmental burden, better for stewardship.
Active Ingredient (AI) load – per 100 litres of mixed product	Lower AI per hectare reduces spray concentration, decreases PPE requirements and reduces drift to non-target vegetation.	< 50 g/100L = low load >100 g/100 = moderate to high load	15g/100L	88g/100L		15-60g/100L		Much lower AI load per hectare (15 g/100L) vs others (15 to 88 g/100L) means less handling risk, safer for spot-spray.
Weed spectrum	A broader spectrum increases utility across sites and seasons, reducing the need for multiple products or applications.	>20 species (blue) <20 species (red)	16 broadleaf species, 12 grass species and 3 sedge species	11 broadleaf species, 6 grass species and 2 sedge species	12 broadleaf species and 10 grass species	19 broadleaf species and 10 grass species	18 broadleaf species and 11 grass species	Broad and long-lasting control of grasses, broadleaves, and sedges vs others with a more limited range.
Weed resistance risk	Lower risk reduces long-term resistance development and helps to preserve herbicide efficiency.		Low	Moderate to high	Moderate to high	High	Moderate to high	Group 29 (cellulose biosynthesis inhibitor) has no known resistance yet, unlike Groups 5, 2, and 6.
Buffer Zones (waterways, sensitive vegetation etc)	Larger buffer areas limit use near sensitive sites, reducing flexibility and increasing compliance burden.	<50 m (blue) >50 m (red)	10 m downwind from waterways and no-spray zone of 25 m must be observed for the protection of non-target vegetation.	50 m buffer zone between spray and non-target vegetation and 10-20 m downwind from waterways	50 m buffer zone between spray and non-target vegetation and 10-20 m downwind from waterways	10-30 m buffer zone between spray and non-target vegetation and 5-10 m downwind from waterways	50 m buffer zone between spray and non-target vegetation and 50 m downwind from waterways	High soil binding, implying less leaching potential, more soil residual control.
Tree safety warning	Product-safe around tree roots are critical in parks, streets and conservation zones.		Safe for trees	Not safe (seedlings)	Not safe	Not safe	Not safe	Non-volatile, soil-binding. Safe around established ornamentals and trees (unlike Bromacil, Hexazinone).
Soil binding - organic carbon partition coefficient (Koc)	High soil binding reduces the number of applications. It reduces leaching into waterways or plant root zones, increasing environmental safety.		High (>500 mL/g)	Low (<100 mL/g)	Low (<100 mL/g)	Low (<150 mL/g)	Very low (<50 mL/g)	High soil binding, implying less leaching potential, more soil residual control.
Solubility	Lower solubility limits movement in soil and reduces contamination of groundwater and damage to nearby plants.	< 50 mg/L = low >50 mg/L = moderate to high	Very low (2.8 mL/g)	High (700 mL/g)	High (700 mL/g)	Low (25 mL/g)	Very high (33,000 mL/g)	Low solubility (~2.8 mg/L) vs e.g., Hexazinone (33,000 mg/L) implying lower leach risk.
Degradation (length of control)	Longer degradation supports extended weed control, reducing labour and chemical use, but too long can affect agricultural practice (e.g., re-planting).	Long-term = 6-12 months Medium-term = 3-9 months	Long-term	Long-term	Medium-term	Medium-term	Long-term	6–12 months control vs 3–6 months typical. Fewer applications, extended protection.
Chemical Group	Diverse modes of action and safety handling.		Group 29	Group 5	Group 5	Group 2	Group 5	Group 29 is novel compared to older, resistance-prone Groups 2, 5, and 6.
Poison Schedule	Reflects toxicity to humans or ecosystems.		Yes (transport only)	Not a scheduled poison	Not a scheduled poison	Yes	Yes	Schedule 6: same as others (Bromacil, Hexazinone), particularly when transported. Use PPE recommended, but not worse than others.
Environmental Safety	Lower persistence reduce impact on ecosystems.		Low mobility and highly persistent. Some toxicity to aquatic plants	Persistent and mobile: significant risk to groundwater and aquatic life	Persistent and mobile: high risk to groundwater and aquatic life	Moderate risk, possibly hazardous near water bodies	Highly soluble, with significant leaching and toxicity risks	Low mobility. Generally safer if the label is followed correctly.
Knockdown herbicide required (e.g, glyphosate)	If required, it adds costs, labour and risk.		Yes	No	Yes	No	Yes	Requires glyphosate or similar for emerged weeds, involving extra costs
Cost – per hectare (in rural areas)	Lower costs increase economic sustainability.		\$130	\$210-420	\$280-650	\$40-120	\$200-900	Although Esplanade purchase price may appear higher compared to other herbicides, its extremely low application rate results in a significantly lower cost per hectare.
Cost – per annum per hectare (in rural areas)	Long-term cost reflects the frequency of application. Products with long residual control often lower this figure.		\$130-260	\$280-840	\$280-1,300	\$80-480	\$200-1,800	Fewer applications = cost-efficient long-term, vs others needing multiple passes annually.