



Manta Ray

Surfactant



*Aquatically approved surfactant
& acidification solution for
spray tanks*

Product Overview

ProForce Manta Ray Surfactant containing the active ingredients 350g/L Soyal Phospholipids and 350g/L Propionic Acid is a unique, multi-purpose surfactant solution which enhances performance of herbicides, insecticides, fungicides and plant growth regulators.

ProForce Manta Ray Surfactant also acidifies the spray tank solution, reducing losses due to alkaline hydrolysis and also assists with the uptake of weak acid herbicides.

ProForce Manta Ray Surfactant also assists in droplet size management to partially reduce the number of fine droplets produced from hydraulic nozzles by air and ground spray equipment.

Key Features

- > Aquatically approved. Can be used for weed control in aquatic situations. Very effective when used in combination with Glyphosate (Rapid Fire), Flumioxazin, Diquat, Amitrole and other aquatically approved herbicides.
- > Non-ionic surfactant. Doesn't have negative reactions with pesticide chemistry.
- > Derived from natural materials – soybean oils.
- > Acidification solution. Acidifies the spray solution to reduce spray tank issues caused by alkaline hydrolysis and enhances uptake of weak acid herbicides.
- > Droplet management tool. Assistance in droplet size management to partially reduce the number of fine droplets produced from hydraulic nozzles by air and ground applied spray equipment.
- > Available in multiple pack sizes – 1L, 5L and 20L.



Manta Ray – Use Rates & Label Recommendations

SITUATION	RATE (per 100 L spray mixture)	CRITICAL COMMENTS
Addition to herbicides, insecticides, fungicides and plant growth regulators to improve spreading and penetration	250-500 mL	Use high rate on stressed or difficult to control weeds.
Reduction of pH to reduce alkaline hydrolysis	100 mL	Add to water in spray tank before adding tank mix partner.
To improve uptake of foliar fertilisers	300-500 mL	Tank mixing with other agricultural chemicals may increase the potential for crop damage – check with supplier.
Assistance in droplet size management to partially reduce the number of fine droplets produced from hydraulic nozzles by air and ground	300-500 mL	Helps to reduce the number of fine droplets. Manta Ray will reduce the fine droplets associated with, but not eliminate off-target movement. This is contingent upon good agricultural spraying practice and appropriate nozzle choice.

Mode of Action

ProForce Manta Ray Surfactant is a multi-purpose aquatic friendly adjuvant which is composed of natural surfactants and penetrants derived from soybean oils. These are combined with propionic acid to produce a penetrant, surfactant, acidifier for use with herbicides, insecticides, fungicides, foliar fertilizers and plant growth regulators. The unique properties of ProForce Manta Ray Surfactant enhances the uptake of many systemic herbicides, allowing them to effectively penetrate into leaves, without causing damage to non-target plants.

ProForce Manta Ray Surfactant also acts as an acidifier which will reduce pH, in most cases to between 4 and 5. This reduces losses due to alkaline hydrolysis and also assists with the uptake of weak acid herbicides.

ProForce Manta Ray Surfactant will reduce the number of fine droplets (<150 micron) produced by flat fan nozzles, without increasing the number of large spray droplets (>400 micron). Manta Ray Surfactant will reduce the fine droplets associated with, but not eliminate, off-target movement of the pesticide being used. This is contingent upon good agricultural spraying practice and appropriate nozzle choice. Do not use in situations that are conducive to drift.

Maximising Performance

- > Half fill the spray tank with water and commence agitation. Add the required quantity of ProForce Manta Ray Surfactant then add the recommended quantity of herbicide, fungicide, insecticide or foliar fertiliser. Continue agitation while topping up the tank and during spraying.
- > Do not use with copper products.
- > Do not use in situations that are conducive to drift.
- > Use the higher rate on stressed or difficult to control weeds.
- > Add to water in spray tank before adding tank mix partner.

Recommended for use with the following Plant Protection & Industrial Herbicide Products

Active Ingredient (for specific trade names, please discuss with your local sales manager or Indigo Specialty representative)	Aquatic Management Products*	General Plant Protection Products ^
	Glyphosate Flumioxazin Diquat Amitrole	Iprodione Weak Acid Herbicides – 2,4-D & MCPA Amitrole Asulam Bentazone Bifenthrin Bromoxynil Carfentrazone Clopyralid Chlorpyrifos Dicamba Diclofop methyl Fluazifop p butyl Indoxacarb Thiophanate methyl Trichlorfon

* Do not use with copper based products.

^ Do not mix with sulfonyl urea chemistry (metsulfuron methyl, Trifloxysulfuron sodium, foramsulfuron, rimsulfuron based products).

