READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Cavalier® 500 SC

Herbicide

ACTIVE CONSTITUENT: 500 g/L OXYFLUORFEN

GROUP 14 HERBICIDE

Crops: Tree and vine crops, fallow, brassicas, coffee, non-crop situations, pyrethrum and tobacco as per the Directions for Use Controls: certain grasses and broadleaf weeds as stated in the Directions for Use table.





CONTENTS: 1 L to 1000 L

DIRECTIONS FOR USE

adama.com

CAVALIER® 500 SC Herbicide can be used on weed-free soil to prevent germination of a wide variety of weeds or it can be applied to existing weeds at seedling stage especially with a tank mix partner to increase the variety of weeds controlled and/or the length of residual control. CAVALIER® 500 SC Herbicide can also be added at a low rate as a "spike" to glyphosate or paraquat and diquat/paraquat herbicides to improve knockdown.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

DO NOT apply by a boom sprayer unless the following requirements are met:

- Spray droplets not smaller than a MEDIUM spray droplet size category.
- DO NOT apply by aircraft unless the following requirements are met:
- Spray droplets not smaller than a MEDIUM spray droplet size category.
- For maximum release heights above the target canopy of 3m or 25% of wingspan or 25% of rotor diameter whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see Buffer zones for aircraft below).

Mandatory downwind buffer zones

Type of aircraft	Bystander area	
Fixed Wing	20 metres	
Helicopter	25 metres	

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APVMA Approval No: 81077/135148 CAVALIER® 500 Herbicide PAGE 1 OF 5

1. CAVALIER® 500 SC HERBICIDE APPLIED AS "SPIKE" WITH GLYPHOSATE OR WITH EITHER PARAQUAT OR A DIQUAT/PARAQUAT MIXTURE. RESTRAINTS

For PROFESSIONAL use only.

DO NOT disturb weeds by cultivation or sowing for 1 day following application to annual weeds and 7 days for perennial weeds to ensure herbicide absorption, unless specified in the CRITICAL COMMENTS.

SITUATION	FOR WEEDS CONTROLLED AND TIME OF APPLICATION	RATE/ha	CRITICAL COMMENTS
Non-crop Situations, Summer and Winter Fallow – Before sowing	Refer to label of the glyphosate product (such as Wipe-out® Bio, Wipe-out® 450,	36 mL plus a glyphosate product at its recommended label rate	Addition of CAVALIER® 500 SC to glyphosate products will improve knockdown and increase the speed at which treated weeds
Fruit & nut trees, vines including: Grapevines, Olive trees, Pome fruit (e.g. apple, pear, nashi, quince), Stone fruit (e.g. apricot, cherry, nectarine, peach, plum) Tree nuts (e.g. almond, macadamia, pecan, walnut)	Wipe-out® Pro)	36 mL plus Wipe-out® 450, Wipe-out® Pro or Wipe-out® Bio at recommended label rate	develop visible symptoms of phytotoxicity (compared to results achieved with glyphosate applied alone) and give control of annual nettles, (<i>Urtica</i> spp.), barley grass and small-flowered mallow. For rates of glyphosate, refer to the appropriate label. Read and follow all label directions. For Summer and Winter Fallow use: See SAFE SOWING INTERVALS section of this label. DO NOT apply the tank mix of glyphosate and CAVALIER® 500 SC near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift.
	Refer to Weeds Controlled list and Spraytop® or Spray & Sow® labels	120 mL plus Spraytop® or Spray & Sow® product at recommended label rate	Addition of Cavalier 500 SC in a tank mix with Spraytop® or Spray & Sow® will improve control of small flowered mallow, evening primrose and other weeds sensitive to Cavalier 500 SC. For the rate of Spraytop® or Spray & Sow®, refer to the appropriate label. Read and follow all label directions.

2. CAVALIER® 500 SC HERBICIDE APPLIED TO WEED-FREE SOIL OR WEEDS AT SEEDLING STAGE.

For PROFESSIONAL use only.

If applying to weed seedlings, DO NOT disturb weeds by cultivation or sowing for 1 day following application to annual weeds and 7 days for perennial weeds to ensure herbicide absorption, unless specified in the CRITICAL COMMENTS.

CROP OR SITUATION	WEEDS CONTROLLED	WEED OR CROP STAGE	RATE/ha	CRITICAL COMMENTS
Brassica Crops: Broccoli, Cabbages, Cauliflower	Refer to Weeds Controlled list	Weed free soil (prior to crop transplanting)	720 mL - 1 L	Apply CAVALIER® 500 SC to prepared ground 4 - 7 days prior to transplanting. If soil is dry, irrigation or rainfall is required prior to transplanting for activation of CAVALIER® 500 SC. Utilise transplanting techniques which cause minimal soil disturbance. Excessive soil disturbance will lessen herbicidal activity. Use the higher rate in situations where weed pressure is known to be heavy.
Coffee: (after	Refer to Weeds	Weeds free soil	1 - 1.9 L	Use the higher rate where longer residual activity (up to 4 months) is required.
transplanting or under established bushes)	Controlled list	Weeds at the 2 - 4 true leaf stage		When seedlings are present apply as a tank mix with Spraytop® to give both knockdown and residual control. Wetspray 1000 should be used in the spray mixture at its recommended rate. Apply as a directed spray to avoid contact with coffee plants. Mature, established weeds must be eliminated by mechanical or chemical means prior to application.
Pyrethrum: - as bare rooted transplants or seedlings	Refer to Weeds Controlled list (except Chickweed)	Pre-plant incorporated into weed free soil worked to a fine tilth	1.9 - 2.9 L	Apply prior to final soil preparation. The preferred implements for final soil preparation would be either a multiple type cultivator or rotary harrows. Use the 2.9 L/ha rate for heavy black clay soils only (as found in Derwent and Coal River Valleys, Tasmania). CAVALIER® 500 SC will not provide consistent control of chickweed.
- more than 4 leaf stage	Blackberry Nightshade, Cleavers, Field Bindweed, Fumitory, Groundsel, Sorrel, Volunteer Potato, Wireweed	Emerged weeds present	50 - 72 mL	Apply when pyrethrum growth stage is greater than 4 true leaf.
- established crops, >1 yr old	As above plus Sow Thistle, Spear Thistle		100 mL- 1.9 L	Apply when pyrethrum is >10 cm rosettes. Apply rates of more than 100 mL/ha ONLY between 1st Feb and 31st Mar. DO NOT apply later than 25 weeks before harvest.



APVMA Approval No: 81077/135148 CAVALIER® 500 Herbicide PAGE 2 OF 5

CROP OR SITUATION	WEEDS CONTROLLED	WEED OR CROP STAGE	RATE/ha	CRITICAL COMMENTS
Tobacco	Refer to Weeds Controlled list	Weed free soil	1.9 L	Use to control weeds along spray lines only. DO NOT apply to tobacco crop. Apply to soil after solid-set irrigation system has been laid out in the field. CAVALIER® 500 SC should be applied to a moist soil. Where very small weeds (2 - 3 leaf) emerge prior to spraying, the addition of Wetspray® 1000 at the label rate to the spray mixture is necessary for effective control. Should the weeds be more advanced, the addition of 1.6 L/ha of Spraytop® is required. Avoid spray drift.
Trees (Fruit and Nut) and Vines at least 3 years old as a dormant application, including: Grapevines, Olive trees,			1.5 - 1.9 L	DO NOT apply CAVALIER® 500 SC once bud swell has occurred. Apply to freshly cultivated weed free soil. Use the higher rate when longer residual control is required (up to 4 months). Where grass weeds are expected to be a major problem, or when control of a wider weed spectrum is required, mix the lower rate with 4.5 L/ha of Cameo® 500 or 4.5 kg /ha of a napropramide (500 g/kg) product. Refer to product labels for crops, rates, states and weeds controlled and follow all label directions.
Pome fruit (e.g. apple, pear, nashi. quince), Stone fruit (e.g. apricot, cherry, nectarine, peach, plum) Tree nuts (e.g. almond, macadamia, pecan, walnut)		Emerged weeds present (4-6 leaf stage)		Use the higher rate when longer residual control is required (up to 4 months). When young seedling grasses and/or broadleaf weeds are present, apply as a tank mix with glyphosate (Wipe-out® 450, Wipe-out® Pro or Wipe-out® Bio), Spraytop® or Spray & Sow® to obtain both knockdown and residual control. A non-ionic surfactant such as Wetspray® 1000 should be used at 0.1 %v/v. Read and follow all label directions. Where weed growth is large and dense, weeds must be eliminated prior to application of CAVALIER® 500 SC, using chemical or mechanical means. Macadamias: Apply in 250 to 500 L water/ha. Apply after harvest to prevent spray contacting nuts. Avoid spray contact with foliage and stem. DO NOT apply to nuts on the ground.
Tropical and sub-tropical fruit crops (inedible peel), including: Avocado, Cherimoya, Custard apple, Durian, Feijoa, Guava, Jackfruit, Kiwifruit, Longan, Lychee, Mango, Mangosteen, Papaya, Passiontruit, Persimmon, Rambutan, Star apple	Refer to weeds Controlled list	Weed free soil Emerged weeds present	1.9 L	Best results are obtained when applied to moist weed free soil and followed by rainfall or irrigation. If weeds are present, CAVALIER® 500 SC should be applied as a tank mix with recommended rates of glyphosate (Wipe-out® 450, Wipe-out® Pro or Wipe-out® Bio), Spraytop® or Spray & Sow®. Read and follow all label directions.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER **APPROPRIATE LEGISLATION**

WITHHOLDING PERIOD

Grazing: DO NOT ALLOW LIVESTOCK TO GRAZE TREATED WEEDS.
Harvest: NOT REQUIRED WHEN USED AS DIRECTED.



Weeds Controlled List

DEFUNE GENIVIINATION			
Amsinckia (<i>Amsinckia</i> spp.)			
Barley grass (Hordeum leporinum)			
Barnyard grass (<i>Echinochloa</i> spp.)			
Blackberry nightshade (Solanum nigrum)			
Bladder ketmia (<i>Hibiscus trionum</i>)			
Burrgrass (<i>Cenchrus australis</i>)			
Caltron (Tribulus terrestris)			

Bladder Kettma (Fibiscus trionum)
Burrgrass (Cenchrus australis)
Caltrop (Tribulus terrestris)
Capeweed (Arctotheca calendula)
Chickweed (Stellaria media)
Crowsfoot grass (Eleusine indica)
Deadnettle (Lamium amplexicaule)
Fat hen (Chenopodium album)
Feathertop Rhodes grass (Chloris virgata)^
Giant pigweed (Trianthema portulacastrum)

Giant pigweed (*Trianthema portulacas*: Liverseed grass (*Urochloa panicoides*) Lovegrass (*Eragrostis* spp.) Pigeon grass (*Setaria* spp.) Pigweed (*Portulaca oleracea*) Prickly lettuce (Lactuca spp.) Red Natal grass (Rhynchelytrum repens) Redshank (Amaranthus cruentus) Ryegrass (Lolium spp.) Sesbania pea (Sesbania cannabina) Shepherd's purse (Capsella bursa-pastoris) Small flowered mallow (Malva parviflora) Soursob (Oxalis pes-caprae) Sow thistle (Sonchus oleraceus) Starburr (Acanthospermum hispidum) Stinkgrass (Eragrostis cilianensis) Summer grass (Digitaria spp.) Thornapple (Datura stramonium) White eye (Richardia brasiliensis) Wild mustard (Sisymbrium spp.) Wild radish (Raphanus raphanistrum) Wireweed/Hogweed (Polygonum aviculare)

Amsinckia (*Amsinckia* spp.) Bellvine (Ipomoea spp.) Capeweed (Arctotheca calendula) Common cotula (Cotula australis) Crowsfoot grass (Eleusine indica) Deadnettle (Lamium amplexicaule) Groundsel (Senecio vulgaris) Liverseed grass (Urochloa panicoides) Pigweed (Portulaca oleracea) Potato weed (Galinsoga parviflora) Redshank (Amaranthus cruentus) Shepherd's purse (Capsella bursa-pastoris) Sow thistle (Sonchus oleraceus) Small flowered mallow (Malva parviflora)* Stinging nettle (Urtica urens) Stinkgrass (Eragrostis cilianensis) Wild radish (Raphanus raphanistrum)

- * When mixed with glyphosate product at its recommended rate
- ^ Refer to residual control section prior to use for information on recommended rates for feathertop Rhodes grass

GENERAL INSTRUCTIONS

CAVALIER® 500 SC is a selective herbicide for the control of certain annual grasses and broadleaf weeds in dormant apples, grapes, peaches, pears, plums, apricots, almonds, macadamia, tobacco, coffee, pyrethrum, winter cereals, topical/subtropical crops, brassicas, onions and in other non-crop situations applied either to weed free soil or to the 4 - 6 true leaf stage. CAVALIER® 500 SC applied to well prepared, weed free soil should not be disturbed or incorporated after application. Weed control for up to 6 months can be expected with high label rates, but spot treatment of escape weeds or perennial grasses may be necessary with knockdown herbicides. When CAVALIER® 500 SC is applied to seedling weeds at the 4 to 6 leaf stage, a non-ionic surfactant such as Wetspray® 1000 should be added at recommended rates to improve activity, where suggested in the CRITICAL COMMENTS.

CAVALIER® 500 SC can also be used at low rates as a "spike" to improve the weed spectrum of knockdown herbicides such as glyphosate and paraquat or diquat/paraquat mixtures.

TIMING

Residual Control

For optimum residual weed control, CAVALIER® 500 SC Herbicide should be applied to the soil surface prior to weed emergence after all other agricultural operations, such as mechanical cultivation and re-shaping of irrigation furrows, have been completed. The area should be left undisturbed during the time period of desired weed control. When applied to seedling weeds, they should be young and actively growing. Weed control for up to 6 months can be expected with high label rates, but spot treatment of escape or perennial grasses may be necessary with knockdown herbicides.

When targeting feathertop Rhodes grass, higher rates should be used such as 1.5 to 1.9 L/ha in relevant situations.

Post-emergence weed control

For optimum post-emergence weed control, CAVALIER® 500 SC + glyphosate, paraquat or paraquat/diquat tank mixes should be applied to small seedling weeds up to 4-6 true leaf stage. Use of a non-ionic surfactant such as Wetspray® 1000 is recommended to improve activity. Weeds should be actively growing and free from environmental stress (drought, cold, insect attack, nutrient deficiency). Cultivation after treatment and prior to or at planting is beneficial for final fallow weed control.

MIXING

Shake well before use. When using CAVALIER® 500 SC alone, fill the spray tank at-least 1/3 full with clean water and add the recommended amount of CAVALIER® 500 SC while the pump and agitator are running, then complete filling the spray tank. A non-ionic surfactant, if required by label directions, should be added near the end of the filling process to minimize foaming. If tank mixing with Cameo® 500 or napropamide, add the product to a 1/3 filled tank and then add CAVALIER® 500 SC during the filling operation. Maintain agitation during mixing and until spraying is completed. When tank mixing with glyphosate formulations, paraquat, or paraquat/diquat, add this after CAVALIER® 500 SC during the filling operation.

CAVALIER® 500 SC Herbicide + Glyphosate tank mixes

SEEDLINGS

Ensure thorough agitation when mixing, filling the spray tank and during application, irrespective of glyphosate formulation used. Follow recommended order and directions for tank mixing CAVALIER® 500 SC and glyphosate. Use all spray mix immediately after preparation.

- DO NOT tank mix CAVALIER® 500 SC and glyphosate without agitation.
- DO NOT allow mix to stand unagitated.
- DO NOT store CAVALIER® 500 SC and glyphosate tank mixes.
- DO NOT mix other agrochemical products with CAVALIER® 500 SC and Wipe-Out® Pro

APPLICATION

Spray equipment should be calibrated carefully before use. CAVALIER® 500 SC should be applied uniformly with an accurately calibrated, low pressure herbicide sprayer, as a directed treatment to the base of tree and vine crops using flat fan or hollow cone nozzles. Complete coverage of seedling weeds is required for maximum knockdown effect. Ensure both weed foliage and the soil surface area sprayed.

Tank mixtures of 36 mL/ha of CAVALIER® 500 SC with glyphosate herbicides should be applied in 30 to 200 litres spray volume per hectare. For maximum residual control CAVALIER® 500 SC should NOT be incorporated or disturbed after application.

Ground application

Apply using a vehicle mounted boom, calibrate to deliver a MEDIUM spray droplet size category, using water volume of 250 to 500 litres per hectare for bare soil or 100 to 1350 litres per hectare when seedling weeds (4 to 6 leaf stage) are treated. Use the higher volumes where weed density is high.

Aerial application

For aerial application a spray volume of 100 L of water is recommended. <u>Engineering Controls for Pyrethrum only:</u> Closed mixing and loading systems must be used when applying with aerial equipment.

CROP SAFETY

CAVALIER® 500 SC may be applied as a directed and/or shielded spray around dormant peach, plum, apricot, almond, apple and pear trees and grapevines of all ages when applied at rates of less than 480 mL/ha. When applied at 1.5 L/ha and above, the trees and grape vines should be at least 3 years of age. **DO NOT** apply CAVALIER® 500 SC once budswell has occurred when using rates greater than 480 mL/ha.

SAFE SOWING INTERVALS

CAVALIER® 500 SC at up to 36 mL/ha may be safely applied 1 day prior to planting broadacre crops such as cereals (wheat, barley, oats, triticale), canola, pulses (lupins, faba beans, field peas) and undersown pastures (lucerne, clover, medics, ryegrass, phalaris, cocksfoot) and 7 days minimum prior to planting cotton or soybeans, provided minimum tillage planting equipment is used with minimal soil disturbance. Inversion, mixing of surface soil with that in the planting zone or covering seed with treated soil may result in injury to emerging crop seedlings. Avoid covering the seed with soil treated with CAVALIER® 500 SC during the planting operation to minimise crop injury. CAVALIER® 500 SC has residual soil



activity, especially when applied at rates greater than 36 mL/ha and on small-seeded horticultural crops. Plantback intervals in the following table for horticultural crops must be observed if more than 36 mL/ha CAVALIER® 500 SC has been applied.

Safe Sowing Intervals for Horticultural Crops (Days)

CAVALIER® 500 SC rate	Up to 36 mL/ha	480 mL/ha
Beans	7	60
Brassicas	14	90
Capsicums		
Carrots		
Cucurbits		60
Lettuce		90
Onions	21	180
Potatoes	7	60
Tomatoes	14	

RESISTANCE WEEDS WARNING

CAVALIER® 500 SC Herbicide is a member of the diphenyl ether group of herbicides.

1 4 HERBICIDE **GROUP**

The mode of action of CAVALIER® 500 SC is to inhibit protoporphyrinogen oxidase. For herbicide resistance management, CAVALIER® 500 SC is a Group 14 herbicide. Some naturally-occurring weed biotypes resistant to CAVALIER® 500 SC and other Group 14 herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These weeds will not be controlled by CAVALIER® 500 SC or other Group 14 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Adama Australia accepts no liability for any losses that may result from the failure of CAVALIER® 500 SC Herbicide to control resistant weeds.

COMPATIBILITY

CAVALIER® 500 SC Herbicide is compatible with Wipe-out® 450, Wipe-out® Pro or Wipeout® Bio (with agitation), Spraytop®, diquat, paraquat + diquat, oryzalin and gramoxone.

PRECAUTIONS

Re-entry period:

DO NOT enter treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF LIVESTOCK

Use with care when applying in areas frequented by stock.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

This product is highly toxic to wildlife and fish, DO NOT contaminate streams, rivers or waterways with the chemical or used containers. Use care when applying in areas frequented by wildlife or adjacent to any body of water. DO NOT apply when weather conditions favour drift from target areas.

STORAGE AND DISPOSAL

KEEP OUT OF REACH OF CHILDREN. Store in the closed, original container in a cool, well-ventilated area. Store above 5°C.

DO NOT store for prolonged periods in direct sunlight.

DO NOT store near food, feedstuffs, fertilisers and seeds.

Triple-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

For refillable containers (1000 L), empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage. The container remains the property of Adama Australia.

110 (Mini-bulk Returnable Container)

DO NOT tamper with the Micro Matic valve or the security seal. DO NOT contaminate the container with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the container have been used, please return the container to the point of purchase. The container remains the property of Adama Australia.

SMALL SPILL MANAGEMENT

Wear protective equipment (see SAFETY DIRECTIONS section). Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. Sweep up material for disposal when absorption is completed and contain in a refuse vessel for disposal (see STORAGE and DISPOSAL section). If necessary wash the spill area with an alkali detergent and water and absorb as above, the wash liquid for disposal.

SAFETY DIRECTIONS

May irritate the eyes and skin. Avoid contact with eyes and skin. When using together with other products, consult their label safety directions. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length chemical resistant gloves. In addition, when preparing spray for backpack and airblast equipment wear cotton overalls, over normal clothing buttoned to the neck and wrist. If applying by backpack and open-cab airblast equipment, wear cotton overalls, over normal clothing buttoned to the neck and wrist and elbow-length chemical resistant gloves. If applying by boom spray and low pressure hand wand wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length chemical resistant gloves. Wash hands after use. After each day's use wash gloves and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

Additional information is listed in the material safety data sheet (SDS). A safety data sheet for CAVALIER® 500 SC Herbicide is available from adama.com or call Customer Service on 1800 423 262.

CONDITIONS OF SALE: The use of CAVALIER® 500 SC Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia accepts no responsibility for any consequence whatsoever resulting from the use of this product. ® Registered trademark of an Adama Group Company.

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