

SEE ATTACHED LEAFLET FOR FULL DETAILS

KYK AANGEHEGTE PAMFLET VIR VOLLE BESONDERHEDE

OROSORB®

ACT 36 / 1947 REGISTRATION N°

ZAR L7440 NAM N-AR1305

PREMIUM SURFACTANT

A surfactant with a unique combination of ingredients that drastically reduces the surface tension of water, producing micro droplets of the mixture when sprayed.

'n Benatter met 'n unieke kombinasie van bestanddele wat die oppervlakspanning van water drasties verlaag en meebring dat mikrodruppeltjies van die mengsel tydens bespuiting gevorm word.

ACTIVE INGREDIENTS

AKTIEWE BESTANDELE

Borax

Inorganic compound

10 g / ℓ

Boraks

Anorganiese verbinding

Orange oil

50 g / ℓ

Lemoenolie

MANUFACTURER / REGISTRATION HOLDER

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REG. N° 2001/ 027414 / 07

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CAUTION • VERSIGTIG



OROSORB

Highly effective wetter containing **OROWET** technology based on natural orange oil

Orange oil is sourced locally from the South African citrus industry - therefore a sustainable source, unlike mineral oil

OROSORB does not reduce photosynthesis and cause stress in plants like most mineral oils

The lipophilic properties of orange oil enhance the wetting of waxy surfaces

OROSORB will not cause pest repercussions like certain other adjuvants

Improves wetting and distribution of insecticidal sprays beneath the bark of trees or vines during dormant applications

Will cause re-wetting and re-distribution of contact pesticides during dew or light rain

Treated surfaces will dry faster in the morning after dew or light rain

Prevents build-up of chemical residues in tanks and reduces clogging of nozzles



MINERAL OIL 0.5%
ON CABBAGE LEAF



OROSORB 0.1%
ON CABBAGE LEAF

Introduction

OROSORB is registered as an adjuvant and will improve spreading and coverage of spray droplets on all plant surfaces.



Content and source of raw materials

The product contains a blend of natural, cold pressed orange oil with bio-degradable wetting agents. This combination of components, collectively known as **OROWET** technology, is patented in various countries worldwide. This technology is unique and differentiates **OROSORB** from other adjuvants, giving the product a new mode of action and highly effective spreading properties. Orange oil is sourced from the South African citrus industry.

Orange oil has lipophilic (fat-loving) properties and is well known for its ability to penetrate and adhere to waxy substances. When it is used in combination with wetting agents at relatively low rates, like with a **OROSORB** recommendation, the orange oil plays a supporting role and assists with the wetting of waxy surfaces.

Only bio-degradable wetting agents are used. No NPE (nonyl phenol ethoxylate) components are included. The manufacturing process has a very low environmental impact and low energy consumption. Using **OROSORB** poses very little risk to the environment or the spray operator. The product is degraded naturally in the environment.

OROSORB as adjuvant

In various independent trials it has been proven that the efficacy of commonly used insecticides, miticides and fungicides can be improved through the use of **OROSORB** as wetting agent.

OROSORB effectively reduces the surface tension of water (Fig. 1). This significantly improves coverage and spreading of spray droplets on the target surface.

The product assists with penetration of spray material into difficult-to-reach areas. Improved

penetration in the dense canopy of citrus trees will ensure better wetting of branches where scale populations often hide. The same applies to bunches of wine grapes where mealy bug can be difficult to reach or with insects like stalk borer in maize or thrips in onions that hide inside the leaf crown.

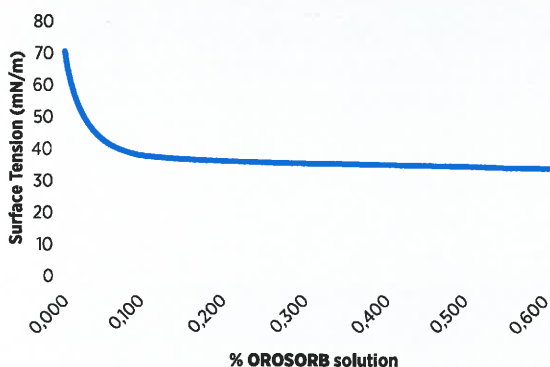
OROWET technology improves knockdown of pesticides through improved:-

- Wetting of the waxy exoskeleton of insects.
- Wetting of hydrophobic external mycelia and spores of fungi.
- Penetration of insecticides into the respiratory openings and protective membranes of insects.

OROSORB improves efficacy of contact herbicides (e.g. paraquat) and systemic products (e.g. MCPA and glyphosate) that are absorbed through foliage. This does not apply where weeds have become resistant to the herbicide. More uniform and effective weed control is observed where difficult-to-control weeds occur.

The efficacy of glyphosate is affected by pH and hardness (dissolved salts) in the spray water. If circumstances such as these require that a buffer or ammonium sulphate must be used, **OROSORB** can still be added for improved wetting and

Figure 1: Surface tension of water after dilution of different **OROSORB** concentrations in distilled water at 25°C.



spreading. In such a case, the water conditioning agent should be added first, followed by the herbicide and then **OROSORB** last of all.

OROSORB prevents build-up of spray residues in tanks and spray equipment. It will prevent clogging of nozzles and therefore improve efficacy of application.

Secondary effects

OROSORB will cause drying (desiccation) of plant cells that were damaged by insect activity or fungal infections. Desiccation of these cells will further prevent the development of the insect or disease, for example the wounds caused by egg laying of leaf miners.

Furthermore, desiccation of these cells will prevent secondary infections from fungi that usually take place through these wounds.

OROSORB dries out honey-dew that is secreted by insects such as aphids or mealy bug. The honey-dew then becomes less attractive for ants.

Sooty mould that would normally develop on honey-dew, may affect the aesthetic appearance of fruit. With the use of **OROSORB**, sooty mould dries out and becomes flaky, making it easier to remove during the packing process, thereby improving fruit finish.

The regular use of **OROSORB** prevents repercussions of secondary pests such as mites, which can be a problem when certain other adjuvants are used.

Plant surfaces treated with **OROSORB** will be re-wetted if dew or light rain occurs after treatment. This will prevent the formation of large droplets and speed up drying time. Re-wetting also assists with re-distribution of chemicals on the plant surface.

Comparative properties of various types of adjuvants

Product	Spreading and coverage	Purpose of use	Mode of action	Secondary effect on pest control
OROSORB	★★★	Spreading and improved efficacy of pesticides at 100 ml or higher	Improved spreading and contact with protective waxy layers	Prevents secondary pests
Mineral oil	★	Improved efficacy of pesticides	Smothering of insects	None
Silicone spreader	★★★ (★★)*	Spreading only	Improved spreading of pesticides (Poor spreading)*	May lead to secondary pests
Standard non-ionic wetter	★★	Wetting only	Improves spreading of pesticides	None
Water conditioner	★	Improved water quality	Prevent break down in alkaline water and/or binding to salts	None
Sticker	★	Improves rain fastness	Reduces wash-off during rain or overhead irrigation	None

* At recommended field rate