

LAS MARINE TECH. LTD



Land



Air



Water



LAS MARINE TECHNOLOGIES LTD

- New Zealand owned and operated
- Based in Rolleston, Canterbury
- Over 16 years experience in the Industry
- Helping New Zealand Business's increase their profits and reduce their carbon footprint is our passion
- Australasian Agents for Mosmart – an innovative land, air and water treatment provider
- Offer a variety of environmentally friendly solutions to meet our customers immediate needs
 - Dust suppression
 - Soil Stabilisation
 - Water Treatment
- Provide initial training and on-going support
- Only company to have a Environment Canterbury (ECAN) Global Consent

DUST SUPPRESSION

Dust creation is an inevitable reality for many industries. Without proper control, dust can cause multiple issues, delays, costly repairs and fines.

Safety and council legislation means dust control has to be treated as a “must have” rather than a “nice to have”.

Dust, including super fine particles, causes problems with:

- health of staff and the surrounding public
 - machinery and assets
 - vegetation
 - new and existing buildings
 - visibility and the safety of staff and public
 - the environment
-
- Water is the most commonly used suppressant but is very limited to its effectiveness
 - By adding various additives to water, we are able to increase the wetting, emulsification and de-agglomeration ability of water to deliver a one product solution for all your needs



WHAT MAKES US DIFFERENT

GROUND BREAKING WATER TREATMENT TECHNOLOGY: “We make water work better”

MULTI PURPOSE ANIONIC SURFACTANT - Developed 11 yrs ago in South Africa

- Environmentally Friendly
- Biodegradable
- Non toxic
- Contains no: *Solvents, ammonia, glycol*

THIS MAKES US VERY UNIQUE AS MOST OTHER SURFACTANTS ARE EITHER:

- Oil based
- Alcohol based
- Chemical based

EXAMPLES OF COMPANIES USING OUR PRODUCTS

NEW ZEALAND	INTERNATIONAL
Fulton Hogan	Rio Tinto
Fletchers	Exxaro Vergenoeg
Hawkins	Dunedee Precious Metals
Environment Canterbury	B2 Gold
Dunedin City Council	Vergenoeg
Southland City Council	Samancor
Silver Fern Farms	Consol

INTRODUCING MARINE3

‘MAKING WATER WORK BETTER’

Marine3 is an anionic surfactant and globally patented.

Marine3 neutralises the magnetic charge of particles in water, thus reducing the surface and interfacial tension.

Marine3 is the base for our surface and airbourne dust suppression products.

Benefits of reduced surface and interfacial tension for Dust Suppression:

- Increased adhesion of the liquid to a solid particle, resulting in a powerful **wetting** agent
- Allows for water and oil-based droplets to disintegrate into finer globules and to stay in suspension for longer, resulting in powerful **emulsification**
- Allows **de-agglomeration** i.e. the prevention of particles to cluster or agglomerate together

WETTING

Wetting is the contact between a liquid and a solid surface, resulting from intermolecular interactions when the two are brought together.

Raw water



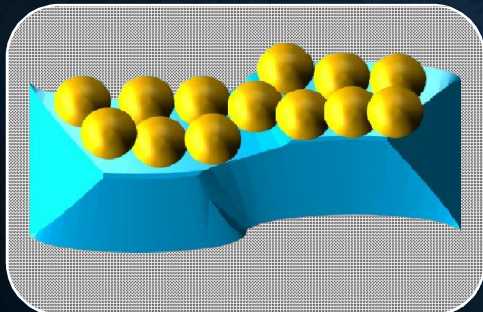
Rain water



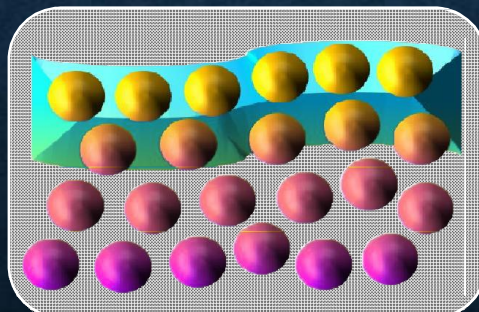
M3T treated water



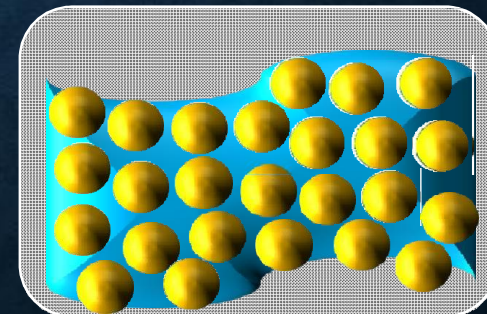
Molecules
float on water



Require 5:1
water ratio



Require 1:1
water ratio

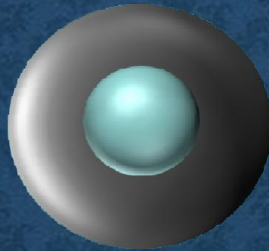


EMULSIFICATION

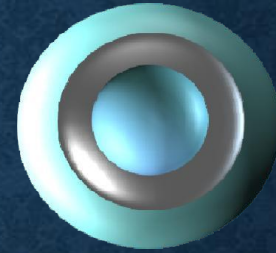
An emulsion is a mixture of two unblendable substances



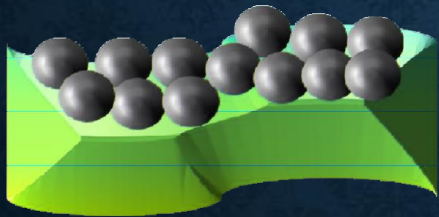
O/W



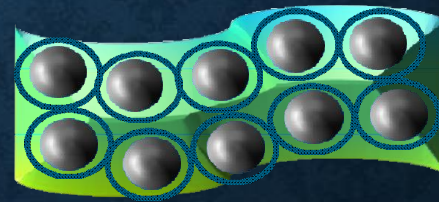
W/O



W/O/W



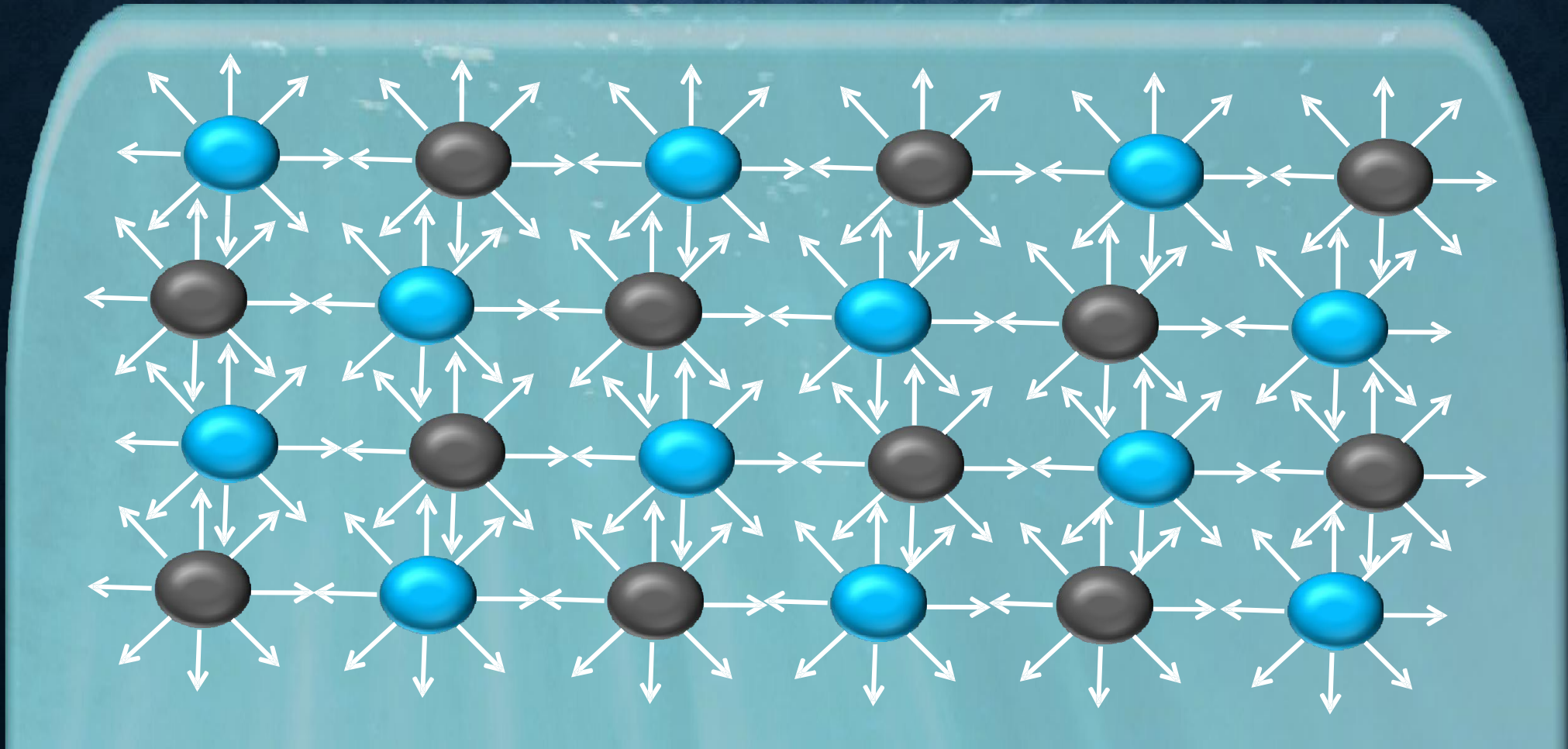
Oil float on top of water



Water mix with oil

DE-AGGLOMERATION

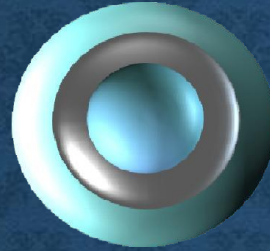
By neutralizing the positive and negative charges between liquid molecules and solid particles, the cohesion are reduced and when particles do not cluster or agglomerate, they stay in suspension



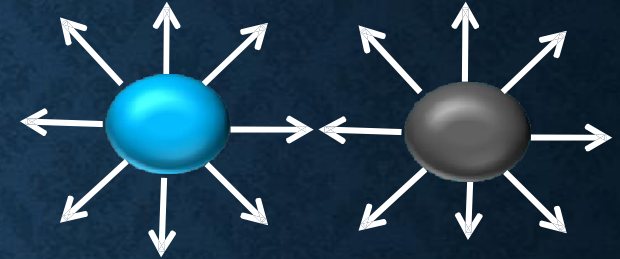
UNIQUE COMBINATION



Wetting



Emulsification



De-agglomeration

WRD's ability to do all three makes it the ideal 'One Product Solution' for:

- Dust Suppression
- Land Stabilisation
- Road Construction

LAS MARINE TECH. DUST FLOW CHART



SURFACE DUST SUPPRESSION - WRD

‘ONE PRODUCT SOLUTION’

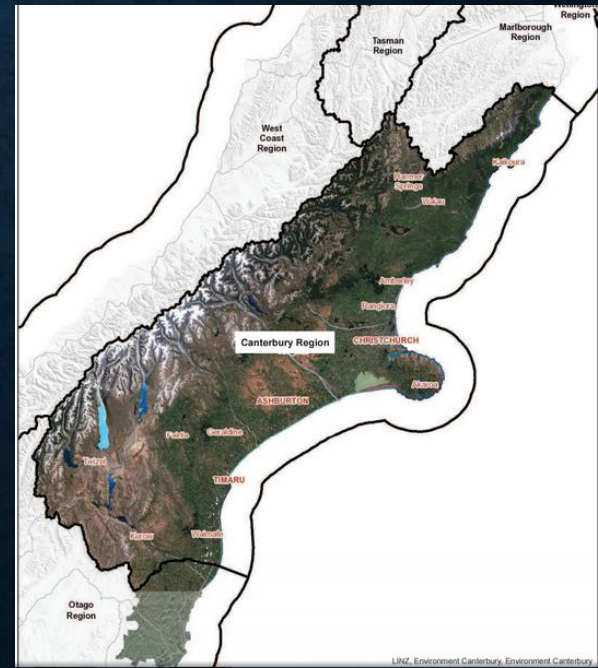
- WRD is an innovative formulation of blended emulsified co-polymers, anionic modifiers and the unique properties of our patent anionic surfactant Marine 3 Technologies (M3T)
- WRD is biodegradable and environmentally friendly. It is not phototoxic and can be safely applied to vegetation
- Being water soluble the product is added to a Water Bowser at the recommended dosage and sprayed on to surfaces
- WRD's patented action of wetting, emulsification and de-agglomeration, allows it to penetrate all types of surfaces and forms a durable crossed linked matrix both within and above the ground
- The matrix binds larger and super fine soil particles into one heavier mass, creating a foundation type crust which is far less prone to breaking up and becoming airborne



Crossed linked matrix penetrates into the ground

BENEFITS FOR USING WRD

- Save money - supplied in concentrate form, then diluted down to required dosages
- True “all in one” solution for dust suppressant, land stabilisation and road preparation needs
- Environmentally friendly. ECAN Global Consent
- Long shelf life and limited storage requirements
- Faster turn around time after application – limited downtime, in fact in most cases there is no downtime
- Water Saving (minimum of +14x more effective than water alone)
 - Reduced water usage - between 40% - 80% in water reduction depending on application
 - Deeper wetting of road surfaces
- Less Spraying and/or Roller passes leads to increased profitability and:
 - Reduced fuel costs, vehicle maintenance and man hours
 - Reducing carbon footprint
 - Increased efficiencies for both vehicles and personnel
 - Increased safety



BENEFITS FOR USING WRD

Binding of fine and larger soil particles therefore:

- Allows the binding agent to emulsify and infiltration deeper into the road surface
- Reducing water run-off, thereby reducing road degradation due to less run-off furrows
- Proven to increase density with: nuclear density testing, clegg testing, penetrometer testing
- Better surface fatting when preparing new roads
- Future proofing of roads - less ongoing road maintenance
- Avoid the formation of a mud layer on the surface of the road, thus increasing safety
- Reducing the loss of fines during water run-off
- Reducing fines being carried away by mud caking on vehicle; tyres, fenders and chassis

Static in fugitive dust is removed

- This is achieved by incorporating our anionic surfactant M3T. Preventing dust from becoming airborne even at 4% moisture - less fugitive dust.

TESTIMONIALS

“We have trialled over a dozen products in our search to find a non oil based dust suppressant. The WRD product has given the best preliminary results in terms of providing a long term, single application suppression of dust.” *Hamish Lindsay, Maintenance Divisional Manager, Fulton Hogan*

“We have undertaken a trial on a 200m stretch of road which has had numerous truck movements over it. The result from a single application staggered me. Their team are about on Monday to apply their product to a number of site we are working on”. *Julian Kinnaird, Base Contracting, Queenstown*

“The fact that the product is environmentally friendly, biodegradable and non-toxic is a big plus in it favour”. *Tim Sheppard, New Zealand Regional Fire Service*

“We have a performance scorecard system which is assessed each month and for all the criteria, Mosmart scored above target.” *Hendrik Bok , Mining Manager, Rio Tinto*

Further testimonials and case studies are available on request

WATER BROWSER



WRD TREATED STOCKPILES



AFTER TREATMENT WITH WRD

