



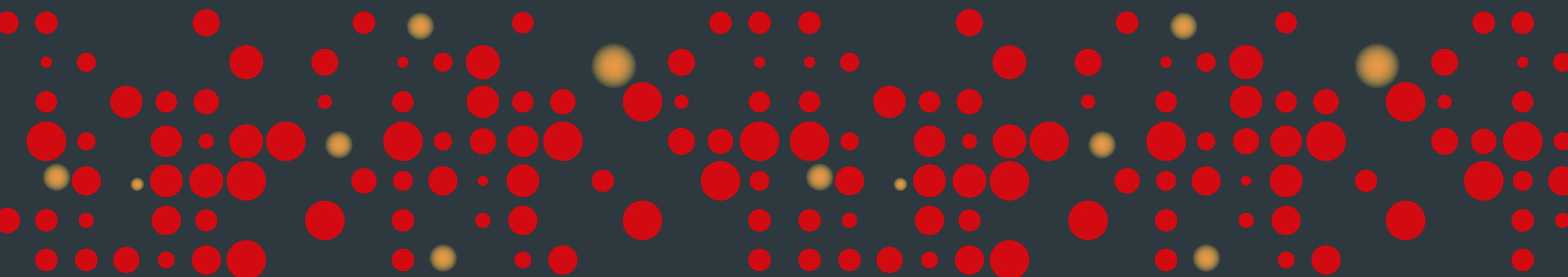
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SERPENS
INVESTMENTS





MARINE³FIRE


MOSMART.UK

Mosmart Marine3 Fire is a unique, biodegradable, worldwide-patented, fire-fighting product. Independently tested and CE certified for use on all Class A fires, Mosmart Marine3 Fire tackles fires faster than water and is much more environmentally friendly than other alternatives.

A Safe and environmentally friendly alternative to Foam

Aqueous film forming foam (AFFF) is coming under increased scrutiny with the recent COP26 discussing the phasing out of persistent polyfluoroalkyl substances (PFAS). These harmful, human-made substances are often called the forever chemicals, persisting in the environment and causing damage to humans and wildlife. Although many have now been phased out in the UK, smaller carbon chain molecules still exist in fire-fighting foams

to maintain the foam structure and create the film needed to extinguish the fire.

Mosmart Marine3 Fire is an effective alternative to foam-based products. The biodegradable surfactants are simply added to normal water and work to reduce the surface tension and enable deeper penetration. Fires are extinguished faster and reignition is prevented.



FIRES ARE EXTINGUISHED
UP TO 80% FASTER THAN
WATER ALONE



ONE SOLUTION FOR ALL
CLASS A FIRES



REDUCES WATER
USE AND PREVENTS
ENVIRONMENTAL DAMAGE



INDEPENDANTLY TESTED IN
GERMANY • CE-CERTIFIED
FOR USE WORLDWIDE
BS ISO-9001



MARINE 3 FIRE



A wetting agent to harness the true power of water

1) Water Use Reduction: Marine 3 doesn't just suppress fires; it optimizes water usage. By reducing water's surface tension, the wetting agent allows water to penetrate materials more effectively. This means firefighters can achieve better results with less water, making it an invaluable asset in situations where water availability is limited.

2) Increased Penetration: Marine 3 Fire will help water penetrate and soak into porous materials more effectively. In the context of fire prevention, this can be important for treating vegetation, mulch, and other combustible materials to make them less susceptible to ignition.

3) Reduced Runoff: Marine 3 Fire can help water spread more evenly across surfaces, reducing runoff. This can be particularly useful in preventing erosion and runoff as used with present day foam based fire-retardant materials used to create firebreaks.

4) Extended Effectiveness: marine 3 Fire can increase the duration of water's effectiveness by preventing rapid evaporation. This is especially valuable in situations where water needs to be applied to prevent ignition or to maintain a barrier against advancing flames.

5) Firebreak Enhancement and Aerial Firefighting: Marine 3 Fire can be applied to firebreaks and control lines to improve their effectiveness. By making the treated area more resistant to ignition, Marine 3 Fire can help prevent fires from crossing containment lines. Marine 3 Fire can be used in aerial firefighting operations, where they are mixed with water and dropped from aircraft onto wildfires. These agents can help increase the effectiveness of the water in suppressing flames and protecting vegetation.

6) Biodegradable Mineral-Based Formula: Unlike traditional chemical-based wetting agents, Marine 3 Fire employs a mineral-based formulation which breaks down naturally over time, it poses minimal harm to the environment. This innovative approach harnesses the power of natural minerals. The use of minerals ensures a safer and more environmentally friendly solution for fire prevention, eliminates the problems associated with chemical runoff, reducing the risk of harm to aquatic life and ecosystems.

7) Compatibility with Various Applications: Whether it's combating wildfires, industrial fires, or urban fire scenarios, Marine 3 proves its versatility. Its unique formulation ensures effectiveness across a range of firefighting scenarios, making it an indispensable tool for fire departments and emergency response teams.

- INCREASED PENETRATION**
- REDUCED RUN OFF AND EVAPORATION**
- ECO-FRIENDLY NON TOXIC FORMULA**
- FIREBREAK ENHANCEMENT**

Revolutionizing Fire Prevention with a Mineral-Based, Biodegradable Wetting Agent.

Wildfire prevention is a collaborative effort that involves government agencies, land managers, communities, and individuals working together to reduce the risk of wildfires and protect lives, property, and natural resources.

In the world of fire prevention, Marine 3 stands out as a game-changing wetting agent. What makes Marine 3 Fire the best wetting agent on the market for Fire prevention? Marine 3 is a type of wetting agent that which is added to water to reduce its surface tension and improve its ability to penetrate and wet surfaces. They can be crucial in both firefighting and fire prevention.



MARINE³ FIRE is the perfect solution

- 1) Mosmart Marine3 Fire is added directly to the main fire engine water tank or portable pump system and delivered through the hose in the same way as water alone.
- 2) A 1% dilution of this saline-based solution is effective on the full range of Class A fires.
- 3) The unique blend of biodegradable surfactants reduces the surface tension of the water allowing deeper penetration of the fire.
- 4) The temperature of the fire is immediately reduced, allowing fire-fighters to advance safely.
- 5) The surfactants act to dampen the formation of smoke and other toxic chemicals, preventing pollution.
- 6) Fires are extinguished up to 80% faster than water alone and reignition is prevented in all Class A fire categories.
- 7) Faster extinguishing means less water and smaller engines can be used to tackle a variety of fires.
- 8) Mosmart Marine3 acts on all Class A fires. Fire-fighters don't need to choose between different products as one solution can now tackle a variety of complex fires.
- 9) Mosmart Marine3 can be inducted into Fire Service equipment using all normal methods (in line inductors, round the pump proportioners and pick-up tubes) so no new equipment needed in order to use the product.

Bulk supplies can be delivered if a significant amount is needed at an incident.

Application Training can be provided if required.

Independently tested by Gresham (SMS) Ltd at the Fire Service College Moreton-in-Marsh & CE-Certified for use worldwide.



Sir Ken Knight CBE QFSM FIFireE
Chairman, Gresham (SMS) Ltd

In August 2017 Mosmart Marine3 product went through rigorous independent testing at the fire service college at Moreton-in-Marsh. Managed and verified by Gresham Services.
"The fire-fighting team were particularly impressed with the speed that the product tackled the tyre fire scenario as they can be hazardous and difficult to deal with."

The results were significant...



Excerpts taken from the footage captured during the various tests. A car fire, burning tyres, a fuel fire, a straw fire and a timber fire.



All videos can be accessed through this QR code.

Test Results

In brief, the results from the scenario tests are as follows, however more detailed results are shown on the data sheets attached and the conclusions below.

Scenario	Best Time to extinguish	Best time to extinguish – The Product	Comments
Car Fire	31 seconds Water	12 seconds	The smoke emitted from the fire during The Product test was considerably less than during the water test.
Burning Tyres	22 seconds Water	5 seconds	The black combustion cloud immediately changed to white vapour upon application of The Product, thus reducing the effects of pollution.
Oil / Fuel	14 seconds Foam	13 seconds	The Product prevented re-ignition even with the application of an ignition source by Firefighters, whereas the foam test re-ignited.
Straw	19 seconds Water	9 seconds	The smoke emitted from the fire during The Product test was considerably less than during the water test. The Product prevented re-ignition, whereas the water test re-ignited.
Timber	32 seconds Water	24 seconds	The smoke emitted from the fire during The Product test was considerably less than during the water test.

Tests observed and witnessed by:
Simon Routh-Jones QFSM
Associate Director, Gresham (SMS) Ltd

Signed



Report prepared by:
Stephen C. Neville OBE
Managing Director, Gresham (SMS) Ltd

Signed



Report validated by:
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Chairman, Gresham (SMS) Ltd

Signed

