DOCUMENTARY EVALUATION REPORT
SCD-22694

FIREFREEZE INC
272 Route 46 East
Rockaway NJ 07866 USA

WORK ORDER: 565712
ISSUE DATE: 11.06.2025

THE RESULTS INDICATED BELOW CORRESPOND TO DOCUMENTARY EVALUATION OF TESTS Nº2025MAY06/003/IE CARRIED OUT ON MANUAL PORTABLE FIRE EXTINGUISHER, LIQUID AGENT TYPE READY FOR USE.

THE VALIDATED RESULTS DO NOT HAVE A STATISTICAL PROJECTION ON FUTURE BATCHES OR ITEMS; THEY ONLY SUPPORT THE CONTROLLED SAMPLE.

GENERAL IDENTIFICATION OF THE PRODUCT.

Product	: Fire extinguisher.
Presentation	: Fire extinguishers pressurized to 150 psi, containing 9 liters of extinguishing agent.
Manufacturer/Shipowner	: FireFreeze Worldwide Inc
Origin	: EEUU
Trademark	: Cold Fire.
Date of manufacture	: 09-2024.
Sample receipt date	: 21-10-2024
Rehearsal start date	: 22-10-2024
Trial end date	: 22-10-2024
Correlative Sample	: 006-Oct-2024

TECHNICAL STANDARDS

- NFPA 18A 2022, standard on Water Additives for fire Control and Vapor Mitigation.

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3.- RESULTS.
General conditions of the test.

Trial location	Cuncumen Laboratory
Fire Spill Fire Test	B

The minimum concentration of 2% coldfire was prepared.
Burn resistance was limited to an area of 1.15 m2 or 25% for an average of 180 seconds.
The fire exposure test was carried out in a test area of 4.6 m2, where a 2.43 m2 diameter bucket was located.
The bucket contains 38L of fuel (naphtha 4) on a water substrate.
The fuel (38L) ignited after 60 seconds and burned freely for 15 seconds before applying the coldfire solution for 90 seconds

Retro-quemado (burnback)

1.1L fuel bucket (4-gasoline) was placed inside the test chamber.
The fuel was ignited, and the burn-up bucket was placed in the fire test chamber within 15 seconds of completing the coldfire solution application.
The smoldering time began when the smoldering bucket was placed in the test chamber and ended when 25% of the fire surface was on fire.
The reignition bucket was left in the test chamber until 25% reignition was reached.

Sample	Extinction time (s)	Time 25% recoil (s)	Ambient temperature (s)
Fresh water	58	112	16
Fresh water	56	125	16
Seawater	54	128	16
Seawater	55	135	16

7.3 Pool fire test.
The test fuel was prepared at a minimum concentration of 2%. The test fuel was placed in a 4.6 m2 test tray. A fuel layer at least 50.8 mm deep was added. Until 90% flame reduction was achieved, all application of the test agent was made from behind the tray. Once 90% flame reduction was achieved, the solution was applied from the front and side.

7.3 Discharge.

Pre-ignition time (s)	Extinguishing agent discharge time (s)	Extinguishing the fire (Si, No)	Waiting time (without disturbances) (s)
60	300	SI	300

Re-ignition

Waiting time (without disturbances) (s)	Torch test, fire lighting (undisturbed time)	observations
300	No	The fuel did not re-ignite as the torch was passed over the

Retro-quemado BurnBack

1 - Limit the spread of fire at any time for a duration of 3 minutes to a total area not exceeding 0.90 m2
2 - Flow over the burning area and extinguish it

Tube ignition time (s)	Burning time inside the tube (s)	Observations (liquid surface)
300	60	Limits the spread of fire at any time for a duration of 3 minutes to a total area of no more than 0.90 m2

7.7 Encapsulator – Stability test of spherical micelles (liquid phase fuels)

The following fuels will be tested:
Non-polar Fuels
a) Heptane
b) Gasoline as defined in 40 CFR 86.113-94
c) Gasoline with 10% ethanol
d) Gasoline with 18% methyl tert-butyl ether (MTBE)
e) Diesel
f) Jet A
g) Others
Polar Fuels
a) Alcohol
b) Ethanol
c) Ethanol blends (E15, E85, others)
d) others

Ignition test, one-minute ignition.
One minute after stirring was completed, the ignition torch was passed over the entire surface of the liquid, including the corners, with the tip of the flame striking the surface, in an attempt to re-ignite the fuel.
The fuel did not ignite while the torch was passed over the fuel.

60s torch flame time per liquid surface, including corners (s)				**Non-polar fuel used**	**observations**
Corner 1 Restart (YES, NO)	Corner 2 Restart (YES, NO)	Corner 3 Restart (YES, NO)	Corner 4 Restart (YES, NO)	letter g	It did not relight in any corner, successful encapsulation
No	No	No	No	Nafta 4	

60s torch flame time per liquid surface, including corners (s)				Polar fuel used	observations
Corner 1 Restart (YES, NO)	Corner 2 Restart (YES, NO)	Corner 3 Restart (YES, NO)	Corner 4 Restart (YES, NO)	letter (a)	It did not relight in any corner, successful encapsulation
No	No	No	No	pure alcohol	
2-hour ignition test					
2-hour torch flame time per liquid surface, including corners (s)				**Non-polar fuel used**	**observations**
Corner 1 Restart (YES, NO)	Corner 2 Restart (YES, NO)	Corner 3 Restart (YES, NO)	Corner 4 Restart (YES, NO)	Letter g (others)	It did not relight in any corner, successful encapsulation
No	No	No	No	Nafta 4	
2-hour torch flame time per liquid surface, including corners (s)				**Polar fuel used**	**observations**
Corner 1 Restart (YES, NO)	Corner 2 Restart (YES, NO)	Corner 3 Restart (YES, NO)	Corner 4 Restart (YES, NO)	letter (a)	It did not relight in any corner, successful encapsulation
No	No	No	No	pure alcohol	

4.- Testing equipment and/or instruments	
Name of equipment and/or instruments	**Identification code**
Balance	Bal-IDF-001-24
Chronometer	Crono-IDF-001-24
Thermometer	Term-IDF-001-24

FIRMA ELECTRÓNICA AVANZADA

MARCO TORO B.
Jefe de Departamento

CESMEC

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