

## **Determination of test fire performance of FT SACHET extinguishing medium on a fat fire according to EN 1869:1997**

Report no.	2017-Efectis-R000963
Sponsor	Fire Terminator International PTE. Ltd Blk 3015 Ubi Road 1 Unit 04-266 SINGAPORE 408704
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## 1. SUBJECT

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Determination of the test fire performance of liquid concentrate FT SACHET.

## 2. EXAMINATION

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Extinguish qualities on an oil/fat fire according to paragraph of Annex C of EN 1869:1997.

## 3. PRINCIPAL

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## 4. PLACE AND DATES FOR THE EXAMINATION

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The extinguishing tests according to Annex C of 1869:1997 took place on May 30<sup>th</sup> 2017 at the facilities of Efectis Nederland Bleiswijk.

The test fires were carried out indoors at this facilities. The tests were performed by staff and with equipments of Efectis Nederland Bleiswijk, The Netherlands.

## 5. DATE AND NUMBER OF THE REPORT

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June 2017; 2017-Efectis-R000963.

## 6. INTRODUCTION

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By order of Fire Terminator International PTE. Ltd, Singapore, Efectis Nederland has performed an investigation into the extinguishing capabilities of the FT SACHET as extinguish media for a class F fat fire.

The investigation was performed on May 30<sup>th</sup> 2017 in the ad-hoc test facility at the laboratory of Efectis Nederland in Bleiswijk, The Netherlands.

Since there are no standards for these kind of extinguishing systems, the tests are performed in mutual agreement with the sponsor. As fire source there is chosen for the fat fire as described in EN 1869:1997 (fire blankets)

The extinguishing sachets are supplied by the sponsor. The execution of the test was performed by staff of Efectis Nederland. Representatives of Fire Terminator International PTE. Ltd were present during the execution of the test.

## 7. FIRE TERMINATOR SACHET

FT SACHET is a liquid extinguish media which is packed in a sealed plastic sachet with an content of 45 ml.

The ingredients consists of Carom seed extract and mineral salts.  
Refer to annex B for the MSDS of FT SACHET.

After the ignition of an oil/fat fire the handling principle is as follows:

- Turn off the gas or electric stopper;
- Using a pair of tongs or a long handled spoon, gently drop the sachet in the burning oil;
- Cool and remove pan from stove;
- Discard the residue;
- Wash the pan clean with soap and water.



FT SACHET

## 8. TEST PROGRAM

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A fuel tray with an internal diameter of 345 mm and a depth of 100 mm was placed on top of a gas burner and put on a table. The tray was filled with 3 litres of Soya bean oil. In the oil a thermocouple was present for the monitoring of the oil temperature. The gas burner was ignited and the temperature of the oil raised with an amount of 15°C/min. In approximately 23 minutes the oil reached a temperature of almost 370 °C and ignition occurred. The gas was turned off and the oil was allowed to burn free for 60 seconds. After 60 seconds one sachet was gently slighted in the burning oil. Almost immediately followed by a second sachet (the sachets are suitable for a nominal oil amount of 1200 ml). 5 seconds after the insertion of the second sachet the flames extinguish. During the extinguish process some droplets oil splash out of the pan but these did not show any flaming. After further cooling down the oil with the extinguish media formed a greasy substance.

## 9. CONCLUSION

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Summarized it can be concluded that the two sachets FT SACHET proved to be able to extinguish a fat fire with 3 litres of edible oil efficiently in agreement with the Annex C of 1869:1997. One sachet is therefore suitable for a nominal amount of burning oil of 1200 ml.



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Project leader special testing



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Manager testing

### APPENDIX A: PICTURES



Photograph A1: test equipment

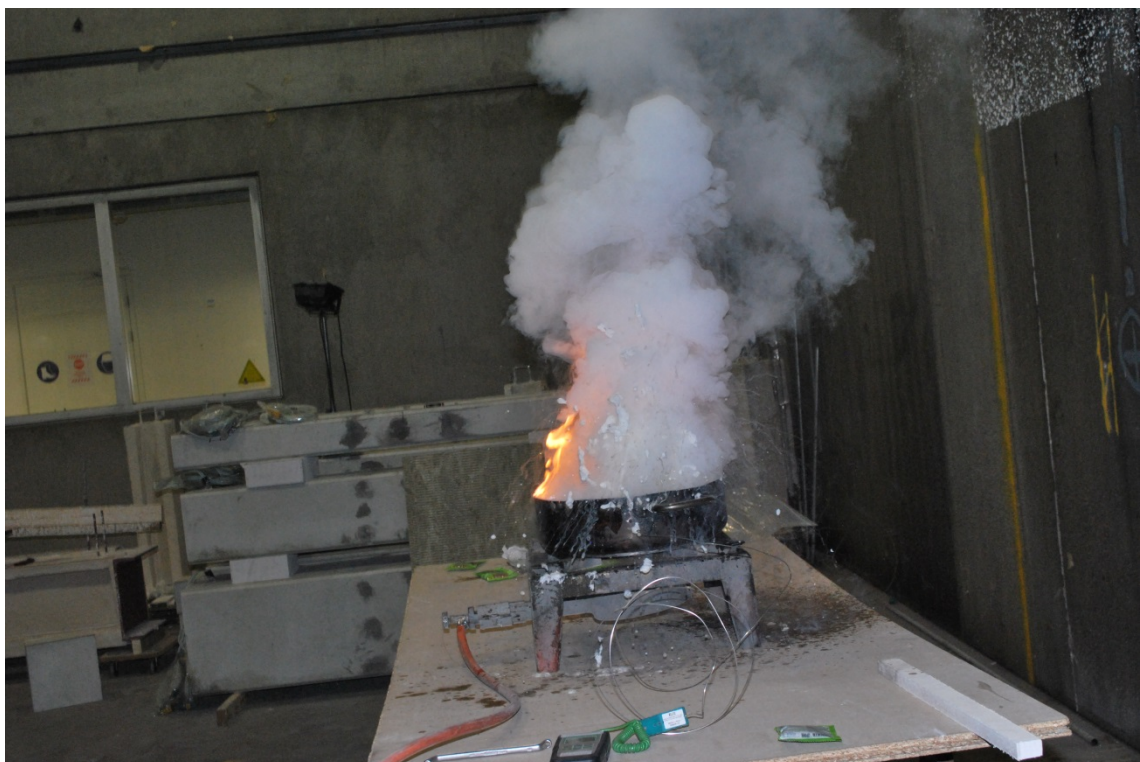


Photograph A2: heating up the oil





Photograph A3: test in progress



Photograph A4: test just after adding second sachet






Photograph A5: full extinguishment 5 seconds after adding second sachet



Photograph A6: situation after 15 minutes



## APPENDIX B: MSDS FT SACHET

		<a href="http://www.fireterminator.com">www.fireterminator.com</a>	
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		Unit 04-266	
		Singapore 408 704	
		Tel: (65) 6748 4396/ (65)9672 4914	

<u>MATERIAL SAFETY DATA SHEET</u>		<b>FIRE TERMINATOR SACHET</b> <b>(Class 'F' fires)</b>	
<i>Page 1 of 4</i>			

<b>SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER</b>			
<b>Product Name</b>	Fire-Terminator Sachet (Class 'F' Fires)	<b>Other Names</b>	None
<b>Recommended Use</b>	The intended or recommended use of this preparation is as a fire-extinguishant for cooking oil / fats / grease fires		
<b>Manufacturer's Name</b>	Fire Terminator International Pte Ltd	<b>Address</b>	Blk.3015, Ubi Road 1 #04-266 Singapore 408704
<b>Telephone No.</b>	(65) 6748 4396	<b>Emergency Telephone No.</b>	(65) 6454 5494
		<b>Date prepared</b>	07 April 2017


<b>SECTION 2: HAZARDS IDENTIFICATION</b>			
<b>Hazard Classification</b>	Not hazardous		
<b>Safety Phrase(s)</b>	Not available	<b>Risk Phrase(s)</b>	Not available


  

<b>SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS</b>	
<b>Preparation</b>	Mixture
<b>Main Ingredients</b>	Carom Seed Sep, Water, Edible Salts, & lemon Extract.
<b>Hazardous contents</b>	No PFOS, No PFOA


  

<b>SECTION 4: FIRST AID MEASURES</b>		
<b>Description of Necessary First Aid Measures</b>	<b>Eye Contact</b>	Flush with large amounts of water. Seek medical attention.
	<b>Skin Contact</b>	Wash with soap and water. Seek medical attention
	<b>Inhalation</b>	Not expected to be toxic if inhaled.
	<b>Ingestion</b>	Give large amounts of water. Seek medical attention.
<b>Medical Attention and Special Treatment</b>		See above

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<b>SECTION 5: FIRE FIGHTING MEASURES</b>			
Suitable Extinguishing Media	This is an extinguishing agent	Hazardous Combustion Products	None
Special Protective Precautions and Equipment for Fire Fighters	None	Hazchem Code	Not Hazardous
<b>SECTION 6: ACCIDENTAL RELEASE MEASURES</b>			
Emergency Procedures		Prevent skin and eye contact	
Methods and Materials for Containment and Clean Up		Wash spilled area with water.	
<b>SECTION 7: HANDLING &amp; STORAGE</b>			
Precautions for Safe Handling		Avoid direct sunlight & extreme temperatures	
Conditions for Safe Storage, Including any Incompatibles		No special conditions are needed for safe storage. Store in its original packaging. <b>Storage Temp - Not Below (-18° C)</b>	
<b>SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION</b>			
National Exposure Standards	Not applicable	Biological Limit Controls	Not available
Engineering Controls	Not available	Personal Protection Equipment	Do not require specific protection
<b>SECTION 9: PHYSICAL &amp; CHEMICAL PROPERTIES</b>			
Appearance	Beetroot purple liquid	Odour	Odourless
Freezing Point	Not available	Flash Point	None
Upper and Lower Flammable (explosive) Limits in Air	Not explosive	Ignition Temperature	Does not ignite
<b>SECTION 10: STABILITY AND REACTIVITY</b>			
Chemical Stability	Stable	Conditions to	None

Incompatible Materials	Not applicable	avoid Hazardous Reactions	None
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SECTION 11: TOXICOLOGY INFORMATION			
Health Effects from the Likely Routes of Exposure	Eye Contact	May cause irritation	
	Skin Contact	May cause mild transient irritation	
	Inhalation	May cause mild transient irritation	
	Ingestion	May cause gastrointestinal irritation.	
SECTION 12: ECOLOGICAL INFORMATION			
Biodegradability	Readily biodegradable		
Eco-Toxicity	Toxin-free / Singapore Green Label		
SECTION 13: DISPOSAL CONSIDERATIONS			
Disposal Methods	Dispose off in compliance with local, state and Commonwealth regulations that may be in force		
Special Precautions for Landfill or Incineration	Not available		
SECTION 14: TRANSPORT INFORMATION			
UN Number	Not applicable	UN Proper Shipping Name	Not applicable
Class and Subsidiary Risk	Not applicable	Packing Group	Not applicable
Special Precautions for User	None	Hazchem Code	Not hazardous
CONTENTS NOT RESTRICTED AND NOT REGULATED AS PER IATA. Tested Toxin-free by TUV SUD PSB (Report No: 7191056307-CHM13-E0). Singapore Green Label product FRAGILE - Avoid scratches, crashes and drops while transporting the products			
SECTION 15: REGULATORY INFORMATION			
Risk / Safety Phrases	Not Classified	Symbol(s) on Label	Not required
Law on Toxic Material	Not applicable	Fire Fighting Law	Not applicable

<b>Labour Health Safety Law on Hazardous Material</b>	Not applicable
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<b>SECTION 16: OTHER INFORMATION</b>		
<b>Date of preparation</b>	07 April 2017	

-END OF MSDS-