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# FLAMEOFF COATINGS
# TEST REPORT

**SCOPE OF WORK**
CDPH 01350 Standard Method Version 1.2 on FR Clear

**REPORT NUMBER**
106525007GRR-002

**ISSUE DATE**
06-May-2026

**PAGES**
11

**DOCUMENT CONTROL NUMBER**
Per GRVOC-RT-050a (09-December-2024)


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# TEST REPORT FOR FLAMEOFF COATINGS, INC.

Report No.: 106525007GRR-002
Date: 06-May-2026
P.O.: 9140

## SECTION 1

## CLIENT INFORMATION

Attention: James Turner
FlameOff Coatings, Inc.
5323 Griffith Park Road
Raleigh, NC 27613 USA
Phone: +1 (919) 414-9129
Email: jturner@flameoff.com

**Kyle Tanis**
**Project Engineer**

**Erin Kahn**
**Project Reviewer**

## SECTION 2
## SUMMARY AND CONCLUSION

| | |
|---|---|
| Test Method: | Standard Method Version 1.2 for CDPH 01350 |
| Modeling Scenario: | Private office (PO), school classroom (SC) and single family residence (R) |

### CLIENT PROVIDED SAMPLE INFORMATION

| | |
|---|---|
| Manufacturer / Location | DimaChem Inc. / Windsor, ON Canada |
| Product Name | FR Clear |
| Product Number | 17012 |
| Product Description | Water based fire inhibitor |
| Date of Manufacture | 08-April-2026 |
| Date of Collection | 14-April-2026 |
| Date of Shipment | 14-April-2026 |

### DESCRIPTION OF SAMPLES

| | |
|---|---|
| Date Received by Lab | 17-April-2026 |
| As Received Sample Condition | Good |
| Lab Sample ID | GRR2604170003-1 |
| Material Submitted | Two (2) 8 oz. bottles of coating |

### WORK REQUESTED/APPLICABLE DOCUMENTS

| | |
|---|---|
| VOC Emissions Analysis: | CDPH Standard Method v1.2 |
| Intertek Quote: | Qu-01620703 |

### TEST RESULTS

**CDPH Standard Method v1.2, Table 4.1**

| MODELING SCENARIO | RESULT (PASS/FAIL) |
|---|---|
| Private Office (PO) | **PASS** |
| School Classroom (SC) | **PASS** |
| Single Family Residence (R)* | **PASS** |

*Note: The single family residence scenario is not yet a CDPH requirement. It is provided for informational purposes only.

**LEED v4 Total Volatile Organic Compounds (TVOC)**

| MODELING SCENARIO | TVOC (mg $m^{-3}$) |
|---|---|
| Private Office (PO) | **0.2** |
| School Classroom (SC) | **< 0.1** |
| Single Family Residence (R)* | **0.4** |

*Note: The single family residence scenario is not yet a CDPH requirement. It is provided for informational purposes only.

### SAMPLE DISPOSITION

At the completion of testing, samples were disposed of in a routine manner.

## SECTION 3
## CDPH STANDARD METHOD V1.2

| | |
|---|---|
| Date Received: | 17-April-2026 |
| Dates Tested: | 17-April-2026 to 04-May-2026 |

**ACCEPTANCE CRITERIA:**

| | |
|---|---|
| Referencing: | CDPH Standard Method v1.2, Table 4.1 |
| | LEED v4 - Low Emitting Materials |
| LEED v4 - TVOC Ranges: | ≤ 0.5 mg $m^{-3}$ |
| | 0.5 to 5.0 mg $m^{-3}$ |
| | ≥ 5.0 mg $m^{-3}$ |

**TEST NOTES OR DEVIATIONS:**

Testing was performed without deviation.

**TEST SUMMARY:**

The emissions testing was performed according to "Standard Method for the Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2". A photograph of the tested sample is included herein. The sample was applied to a pre-conditioned solid oak substrate adhered to a stainless steel plate using aluminized tape. Sample application was performed using a residential garden sprayer as recommended by the manufacturer with application parameters as specified in Table 2. The sample was conditioned outside of the test chamber at 23 ± 2°C and 50 ± 10% RH. The sample was then placed in the test chamber with the top surface exposed. Air samples were collected prior to the sample being placed in the test chamber (0 hours) and at 264, 288, and 336 hours after preparation. Samples analyzed for individual VOCs and TVOC were collected on multi-sorbent tubes containing glass wool, Tenax TA 35/60 and Carbograph 5 TD 40/60. These VOC samples were analyzed by thermal desorption-gas chromatography/mass-spectrometry, TD-GC/MS. TVOC was calculated through integration of the chromatogram from n-pentane through n-heptadecane using toluene as a surrogate. Individual VOCs were calculated using calibration curves based on pure standards unless otherwise noted. Samples analyzed for low molecular weight aldehydes were collected on cartridges treated with 2,4-di-nitrophenylhydrazine (DNPH). Low molecular weight aldehydes were analyzed using high performance liquid chromatography, HPLC.

**Table 1: Conditioning and test timing**

| EXPERIMENT PHASE | START DATE | DURATION |
|---|---|---|
| Conditioning | 17-April-2026 | 10 Days |
| Chamber Testing | 27-April-2026 | 4 Days |

**RESULTS:**

**Table 2: Sample and Chamber Conditions during Test Period**

| PARAMETER | | SYMBOL | VALUE | UNITS |
|---|---|---|---|---|
| Sample Dimensions | Length | - | 0.274 | m |
| | Width | - | 0.294 | m |
| Spreading Ratio Applied | | - | 7.58 | $m^2/L$ |
| | | - | 309 | $ft^2/gal$ |
| Wet Sample Mass | | - | 13.0 | g |
| Exposed Sample Surface Area | | *A* | 0.081 | $m^2$ |
| Chamber Volume | | *V* | 0.116 | $m^3$ |
| Chamber Loading Factor | | *L* | 0.69 | $m^2\ m^{-3}$ |
| Inlet Air Flow Rate | | *Q* | 0.116 | $m^3\ h^{-1}$ |
| Air Change Rate | | $N_{ACH}$ | 1.00 | $h^{-1}$ |
| Area Specific Flow Rate | | $q_A$ | 1.44 | $m\ h^{-1}$ |
| Chamber Pressure (Range) | | P | 15.1 (14.3-16.3) | Pa |
| Average Temperature (Range) | | T | 23.2 (23.1-23.2) | °C |
| Average Humidity (Range) | | RH | 50.1 (46.9-51.4) | % RH |
| Testing Duration | | t | 336 | h |

**Table 3: Test chamber background VOC concentrations in µg $m^{-3}$.**

| COMPOUND | CAS No. | $C_{i0}$ |
|---|---|---|
| Formaldehyde | 50-00-0 | < 0.3 |
| TVOC | - | < 20.0 |

**Table 4: Test chamber TVOC and formaldehyde concentrations in µg $m^{-3}$.**

| COMPOUND | CAS No. | 264 H | 288 H | 336 H |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | 0.3 | 0.5 | 0.4 |
| TVOC | - | 116 | 96.1 | 69.3 |

**Table 5: Test chamber TVOC and formaldehyde emission factors in µg $m^{-2}\ h^{-1}$.**

| COMPOUND | CAS No. | 264 H | 288 H | 336 H |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | < 0.4 | < 0.4 | < 0.4 |
| TVOC | - | 161 | 133 | 94.8 |

Individual emitted VOCs identified above the lower limits of quantitation are listed in Table 6; VOCs which are listed on chemical of concern lists or have CRELs are indicated.

The measured chamber concentrations and corresponding emission factors of identified individual VOCs and TVOCs are listed in Table 7.

In Tables 5, 7 and 8, emission factors were calculated using equation 3.1 in CDPH Standard Method V1.2:

$$EF_{Ai} = \frac{Q \times (C_{it} - C_{i0})}{A_C}$$

The inlet flow rate, $Q$ ($m^3\,h^{-1}$), is the measured flow rate of air into the chamber. The chamber concentration, $C_{it}$ ($\mu g\,m^{-3}$), is the concentration of a target $VOC_i$, formaldehyde and other carbonyl compounds measured at time $t$. The chamber background concentration, $C_{i0}$ ($\mu g\,m^{-3}$), is the corresponding concentration measured with the chamber operating without a test specimen. The exposed surface area of the test specimen in the chamber, $A_C$ ($m^2$), is determined from the measurements made at the time of specimen preparation.

**Table 6: VOCs detected above lower limits of quantitation in air samples at 336 hours.**

| VOC | CAS No. | SURROGATE[1] | CREL[2] ($\mu g\,m^{-3}$) | CARB TAC[3] | PROP 65 LIST[4] |
|---|---|---|---|---|---|
| Formaldehyde | 50-00-0 | No | 9 | Yes | Yes |
| Acetic acid, methyl ester[5] | 79-20-9 | Yes | No | No | No |
| Acetic acid[5] | 64-19-7 | Yes | No | No | No |

[1]Indicates which non-listed VOCs were quantified using surrogate compounds, all other compounds were quantified using pure compounds.
[2]Chronic Reference Exposure Level (CREL) as defined by California Office of Environmental Health Hazard Assessment.
[3]Substance is listed on California Air Resource Board's (CARB) Toxic Air Contaminate (TAC) identification list.
[4]Substance known to the state of California to cause cancer or reproductive toxicity according to California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
[5]Substance was detected but was also observed in the initial screening of the oak substrate at a higher concentration. The substrate was the suspected source of this substance.

**Table 7: Measured chamber concentrations and corresponding emission factors of individual VOCs listed in Table 4-1 of CDPH 01350 V1.2. at 336 hours.**

| VOC | CAS No. | CHAMBER CONCENTRATION ($\mu g\ m^{-3}$) | EMISSION FACTOR ($\mu g\ m^{-2}\ h^{-1}$) |
|---|---|---|---|
| Formaldehyde | 50-00-0 | **0.4** | < 0.4 |
| Acetaldehyde | 75-07-0 | < 3.7 | < 5.3 |
| Vinyl acetate | 108-05-4 | < 1.1 | < 1.7 |
| Epichlorohydrin | 106-89-8 | < 0.3 | < 0.4 |
| Ethanol, 2-methoxy-, acetate | 110-49-6 | < 0.7 | < 1.0 |
| Isopropyl Alcohol | 67-63-0 | < 1.3 | < 1.9 |
| Ethene, 1,1-dichloro- | 75-35-4 | < 0.8 | < 1.2 |
| Methylene chloride | 75-09-2 | < 4.7 | < 6.7 |
| Carbon disulfide | 75-15-0 | < 3.8 | < 5.5 |
| Methyl tert-butyl ether | 1634-04-4 | < 0.9 | < 1.3 |
| n-Hexane | 110-54-3 | < 1.2 | < 1.7 |
| Trichloromethane (Chloroform) | 67-66-3 | < 0.9 | < 1.3 |
| Ethanol, 2-methoxy- | 109-86-4 | < 0.7 | < 1.0 |
| Ethane, 1,1,1-trichloro- | 71-55-6 | < 1.0 | < 1.5 |
| Benzene | 71-43-2 | < 0.4 | < 0.5 |
| Carbon Tetrachloride | 56-23-5 | < 1.0 | < 1.4 |
| 2-Propanol, 1-methoxy- | 107-98-2 | < 0.6 | < 0.9 |
| Ethylene glycol | 107-21-1 | < 4 | < 6 |
| Trichloroethylene | 79-01-6 | < 0.6 | < 0.9 |
| 1,4-Dioxane | 123-91-1 | < 1.0 | < 1.5 |
| Ethanol, 2-ethoxy- | 110-80-5 | < 1.1 | < 1.6 |
| Toluene | 108-88-3 | < 0.5 | < 0.8 |
| Formamide, N,N-dimethyl- | 68-12-2 | < 0.9 | < 1.3 |
| Tetrachloroethylene | 127-18-4 | < 0.6 | < 0.8 |
| Benzene, chloro- | 108-90-7 | < 0.5 | < 0.6 |
| Ethylbenzene | 100-41-4 | < 0.5 | < 0.7 |
| Xylene (-m, -p, & -o) | 108-38-3, 95-47-6, 106-42-3 | < 1.3 | < 1.8 |
| Styrene | 100-42-5 | < 0.6 | < 0.9 |
| 2-Ethoxyethyl acetate | 111-15-9 | < 0.5 | < 0.7 |
| Phenol | 108-95-2 | < 2.0 | < 2.9 |
| Benzene, 1,4-dichloro- | 106-46-7 | < 0.3 | < 0.4 |
| Isophorone | 78-59-1 | < 0.2 | < 0.4 |
| Naphthalene | 91-20-3 | < 0.2 | < 0.3 |

**Table 8: Measured chamber concentrations and corresponding emission factors of identified non-listed individual VOCs and TVOC at 336 hours.**

| VOC | CAS No. | CHAMBER CONCENTRATION (µg $m^{-3}$) | EMISSION FACTOR (µg $m^{-2}$ $h^{-1}$) |
|---|---|---|---|
| Acetic acid, methyl ester[5] | 79-20-9 | 3.0 | 4.3 |
| Acetic acid[5] | 64-19-7 | 62.7 | 90.1 |
| TVOC | - | 69.3 | 94.8 |

[5]Substance was detected but was also observed in the initial screening of the oak substrate at a higher concentration. The substrate was the suspected source of this substance.

**Exposure Scenario Modeling and Evaluation:**

Estimated building concentrations for the listed scenarios were calculated using equation 3.2a of CDPH Standard Method V1.2:

$$C_{Bi} = \frac{EF_{Ai} \times A_B}{Q_B}$$

The area specific emission rate $EF_A$ at 336 hours (14 days) total exposure time is multiplied by the ratio of the exposed surface area of the installed material in the building, $A_B$ ($m^2$), to the flow rate of outside ventilation air, $Q_B$ ($m^3$ $h^{-1}$).

The modeling parameters used for the given scenarios are listed in Table 9. The modeled concentrations of identified individual VOCs are listed in Tables 10 & 11. Whether the modeled concentrations meet the maximum allowable concentration requirements specified in Table 4.1 of CDPH Standard Method V1.2 are also indicated.

**Table 9: Standard modeling parameters for wallcoverings.**

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Exposed Surface Area Installed in *Private Office (PO)* | $A_B$ | 33.4 | $m^2$ |
| Air flow rate of *Private Office (PO)* | $Q_B$ | 20.7 | $m^3$ $h^{-1}$ |
| Exposed Surface Area Installed in *Classroom (SC)* | $A_B$ | 94.6 | $m^2$ |
| Air flow rate of *Classroom (SC)* | $Q_B$ | 191 | $m^3$ $h^{-1}$ |
| Exposed Surface Area Installed in *Residence (R)* | $A_B$ | 562 | $m^2$ |
| Air flow rate of *Residence (R)* | $Q_B$ | 127 | $m^3$ $h^{-1}$ |

**Table 10: Modeled concentrations of individual VOCs specified in Table 4-1 of CDPH 01350 V1.2.**

| VOC | CAS NO. | MODELED CONCENTRATION (µg m$^{-3}$) | | | CONC. LIMIT (µg m$^{-3}$) | RESULT Pass (P) /Fail (F) | | |
|---|---|---|---|---|---|---|---|---|
| | | PO | SC | R | | PO | SC | R |
| Formaldehyde | 50-00-0 | < 0.7 | < 0.2 | < 1.8 | 9 | P | P | P |
| Acetaldehyde | 75-07-0 | < 8.5 | < 2.6 | < 23.2 | 70 | P | P | P |
| Vinyl acetate | 108-05-4 | < 2.7 | < 0.8 | < 7.3 | 100 | P | P | P |
| Epichlorohydrin | 106-89-8 | < 0.6 | < 0.2 | < 1.6* | 1.5 | P | P | P |
| Ethanol, 2-methoxy-, acetate | 110-49-6 | < 1.6 | < 0.5 | < 4.3 | 45 | P | P | P |
| Isopropyl Alcohol | 67-63-0 | < 3.1 | < 1.0 | < 8.6 | 3,500 | P | P | P |
| Ethene, 1,1-dichloro- | 75-35-4 | < 1.9 | < 0.6 | < 5.2 | 35 | P | P | P |
| Methylene chloride | 75-09-2 | < 10.9 | < 3.3 | < 29.8 | 200 | P | P | P |
| Carbon disulfide | 75-15-0 | < 8.9 | < 2.7 | < 24.4 | 400 | P | P | P |
| Methyl tert-butyl ether | 1634-04-4 | < 2.1 | < 0.6 | < 5.6 | 4,000 | P | P | P |
| n-Hexane | 110-54-3 | < 2.7 | < 0.8 | < 7.5 | 3,500 | P | P | P |
| Trichloromethane (Chloroform) | 67-66-3 | < 2.2 | < 0.7 | < 5.9 | 150 | P | P | P |
| Ethanol, 2-methoxy- | 109-86-4 | < 1.6 | < 0.5 | < 4.3 | 30 | P | P | P |
| Ethane, 1,1,1-trichloro- | 71-55-6 | < 2.4 | < 0.7 | < 6.7 | 500 | P | P | P |
| Benzene | 71-43-2 | < 0.8 | < 0.3 | < 2.3* | 1.5 | P | P | P |
| Carbon Tetrachloride | 56-23-5 | < 2.2 | < 0.7 | < 6.2 | 20 | P | P | P |
| 2-Propanol, 1-methoxy- | 107-98-2 | < 1.4 | < 0.4 | < 3.9 | 3,500 | P | P | P |
| Ethylene glycol | 107-21-1 | < 10 | < 3 | < 28 | 200 | P | P | P |
| Trichloroethylene | 79-01-6 | < 1.4 | < 0.4 | < 3.8 | 300 | P | P | P |
| 1,4-Dioxane | 123-91-1 | < 2.3 | < 0.7 | < 6.4 | 1,500 | P | P | P |
| Ethanol, 2-ethoxy- | 110-80-5 | < 2.6 | < 0.8 | < 7.1 | 35 | P | P | P |
| Toluene | 108-88-3 | < 1.3 | < 0.4 | < 3.5 | 150 | P | P | P |
| Formamide, N,N-dimethyl- | 68-12-2 | < 2.1 | < 0.6 | < 5.7 | 40 | P | P | P |
| Tetrachloroethylene | 127-18-4 | < 1.3 | < 0.4 | < 3.6 | 17.5 | P | P | P |
| Benzene, chloro- | 108-90-7 | < 1.0 | < 0.3 | < 2.9 | 500 | P | P | P |
| Ethylbenzene | 100-41-4 | < 1.1 | < 0.3 | < 3.0 | 1,000 | P | P | P |
| Xylene (-m, -p, & -o) | 108-38-3, 95-47-6, 106-42-3 | < 3.0 | < 0.9 | < 8.1 | 350 | P | P | P |
| Styrene | 100-42-5 | < 1.4 | < 0.4 | < 3.9 | 450 | P | P | P |
| 2-Ethoxyethyl acetate | 111-15-9 | < 1.1 | < 0.3 | < 3.0 | 150 | P | P | P |
| Phenol | 108-95-2 | < 4.6 | < 1.4 | < 12.7 | 100 | P | P | P |
| Benzene, 1,4-dichloro- | 106-46-7 | < 0.6 | < 0.2 | < 1.7 | 400 | P | P | P |
| Isophorone | 78-59-1 | < 0.6 | < 0.2 | < 1.6 | 1,000 | P | P | P |
| Naphthalene | 91-20-3 | < 0.4 | < 0.1 | < 1.2 | 4.5 | P | P | P |

*Individual VOC of concern is below lower LOQ for modeled scenario.

**Table 11: Modeled concentrations of identified non-listed individual VOCs.**

| VOC | CAS NO. | MODELED CONCENTRATION ($\mu g\ m^{-3}$) | | |
|---|---|---|---|---|
| | | PO | SC | R |
| Acetic acid, methyl ester[5] | 79-20-9 | 6.9 | 2.1 | 19.0 |
| Acetic acid[5] | 64-19-7 | 145 | 44.6 | 399 |
| $TVOC_{Toluene}$ | - | 153 | 46.9 | 419 |

[5]Substance was detected but was also observed in the initial screening of the oak substrate at a higher concentration. The substrate was the suspected source of this substance.

## PHOTOGRAPHS:

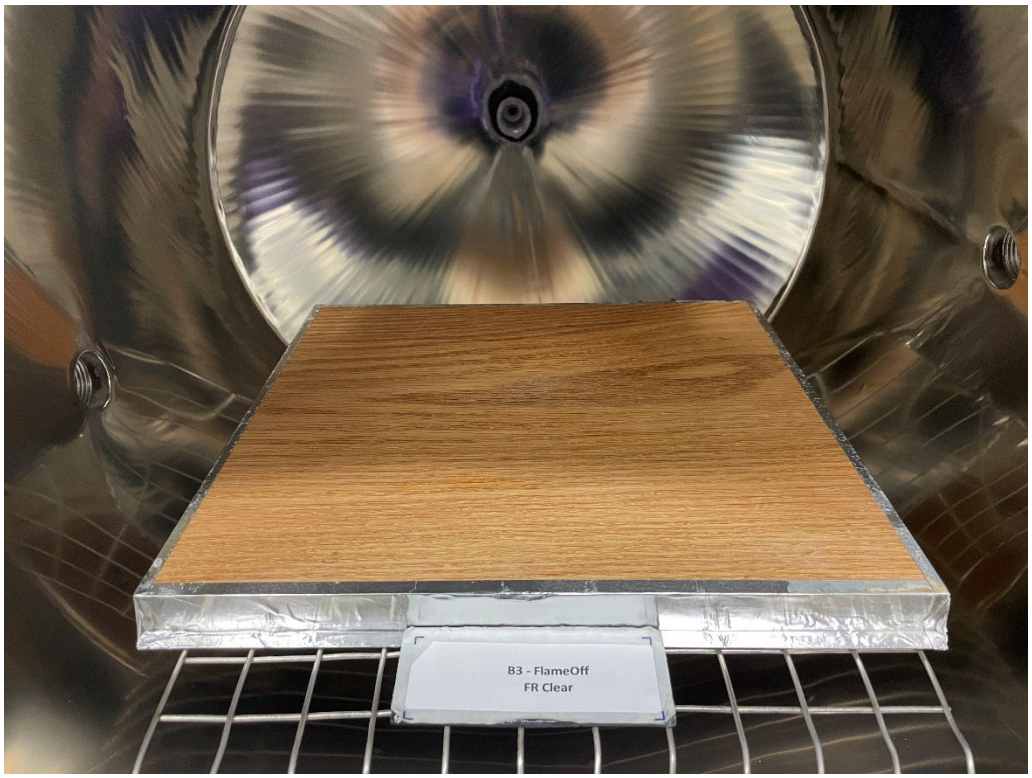


Figure 1: Photograph of sample in test chamber.

## SECTION 4
## CLIENT PROVIDED CHAIN OF CUSTODY

| Ship To: |
|---|
| Attn: VOC Laboratory |
| 4700 Broadmoor Ave SE |
| Suite 200 |
| Kentwood, MI 49512 |
| Phone: 616-656-7401 |

| Chain of Custody for Chemical Testing | |
|---|---|
| Intertek Quotation Number: | |
| Purchase Order (enter Company and Number): | |

| Shipping Details | |
|---|---|
| Packed & Shipped By: | Misha Nikolajev |
| Shipping Date: | April, 14, 2026 - 10 AM |
| Carrier/Airbill Number: | |

| Requested Testing |
|---|
| Test to be performed: |

| CustomerInformation | |
|---|---|
| Company: | FlameOFFCoatings, Inc. |
| Street Address: | 3915BerylRd.Suite 130 |
| City/State/Postal code: | Raleigh,NC, 27607 |
| Country: | USA |
| Contact Name & Title (for reporting): | James Turner - CEO |
| Contact Phone/Fax Numbers: | 919-414-9129 |
| Contact E-mail Address: | jturner@flameoff.com |
| Financially Responsible Co. : | FlameOFF Coatings, Inc. |

| CustomerRequest for Certification | |
|---|---|
| Clean Air™ Certification: | [X] YES |
| | |
| | |

| Manufacturer Information (If Different) | |
|---|---|
| Company: | DimaChem Inc. |
| City/State/Country: | Windsor, ON N8X 4G4, Canada |
| Contact Name/Title: | Andrew Conway - VP Ops |
| Phone Number/E-mail Address: | 519-969-5570, aconway@dimacheminc.com |

| Special Customer Instructions |
|---|
| |

| Sample Details | |
|---|---|
| Product Commercial Name*: | FR Clear |
| Product Commercial Part No.(if not part of the name)*: | 17012 |
| Manufacturer Sample Tracking ID: | 870658472261 |
| Date Manufactured*: | April 8, 2026 |
| Product Category & Use*: | Fire Inhibitor |
| Sample Construction Materials*: | |
| Plant Name & Location*: | FlameOFF Coatings, Inc. |
| Collection Location within Plant: | 3915BerylRd.Suite 130 |
| Date & Time Collected* : | April, 14, 2026 - 10 AM |
| Number of Sample Pieces*: | 2 8 OZ Bottles |
| Sample Collected by*: | Misha Nikolajev |
| Phone/Fax Numbers*: | 919-633-6044,866-301-1225 |
| E-mail Address*: | misha@flameoffcoatings.com |

| Customer Authorizes Laboratory to Submit Copies of Test Reports To: | |
|---|---|
| Contact: | JamesTurner |
| Email Address: | jturner@flameoff.com |
| Organization: | FlameOFF Coatings, Inc. |
| Contact: | |
| Email Address: | |
| Organization: | |

| IntertekUse Only | |
|---|---|
| Condition of Shipping Package: | Good |
| Condition of Sample: | Good |
| Sample ID: | GRR2604170003-1 |
| GIN: | G106525007 |

*Indicates required field

### Sample Handling*

| | Printed Name* | Signature* | Date* | Company* |
|---|---|---|---|---|
| Relinquished By: | Misha Nikolajev | Misha | April, 14, 2026 - 10 AM | FlameOFF Coatings, Inc. |
| Received by: | Kyle Tanis | Kyle Tanis | 16-April-2026 | Intertek |