



# Hilti CP 620 Firestop Foam

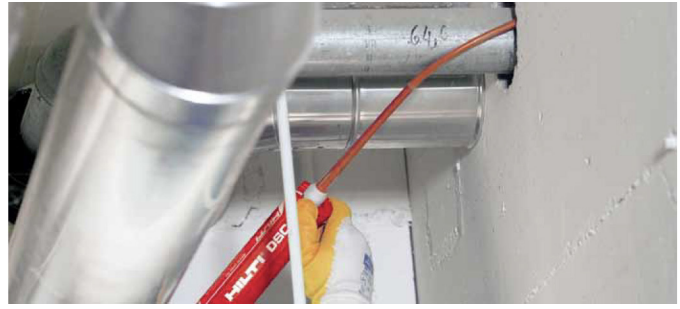
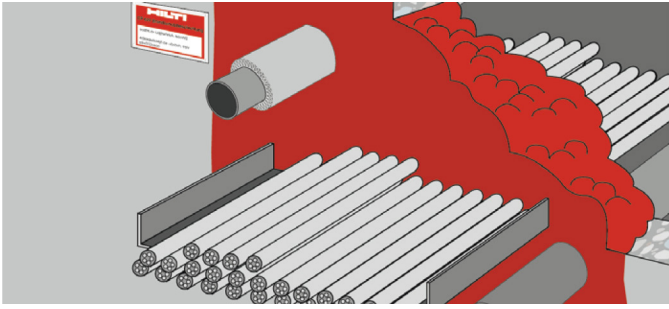
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## Firestop foam CP 620

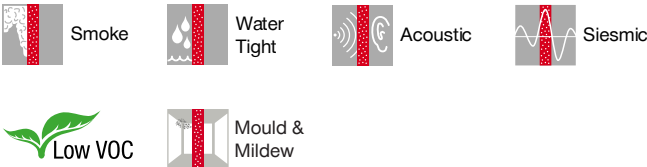


### APPLICATIONS

- Concrete, drywall and masonry
- Multiple and mixed penetrations
- Single cables, cable bundles and cable trays
- Metal pipes
- Suitable for irregular and difficult-to-reach openings

### ADVANTAGES

- Innovative firestopping solution for complex and difficult to reach applications
- Virtually impervious to smoke
- Excellent water and vapour resistance
- Single-sided installation possible
- Easy to use in openings where access is poor



### Technical data

<b>Chemical basis</b>	Two-component polyurethane foam
<b>Colour</b>	Red
<b>Base materials</b>	Concrete, Masonry, Drywall
<b>Volume per unit</b>	300 ml
<b>Foam yield (up to)</b>	1.9 l
<b>Approx. cut time (at 23°C / 50% rel. humidity)</b>	2 min
<b>Application temperature range</b>	0 - 40 °C
<b>Temperature resistance range</b>	-30 - 100 °C
<b>Storage and transportation temperature range</b>	5 - 25 °C
<b>Shelf life<sup>1)</sup></b>	9 months

<sup>1)</sup> at 77°F/25°C and 50% relative humidity; from date of manufacture



### Consumption Guide

Foam installation thickness: 145  
No. of CP 620 cartridges

size of opening (mm x mm)	Cable loading (as % of opening size)			
	0%	10%	30%	60%
50 x 100	1	1	1	1
100 x 100	1	1	1	1
100 x 150	2	2	1	1
100 x 200	2	2	2	1
100 x 250	3	2	2	1
100 x 300	3	3	2	1
200 x 200	4	3	3	2
200 x 225	4	4	3	2
200 x 250	5	4	3	2
200 x 300	5	5	4	2
200 x 350	6	6	4	3
200 x 400	7	6	5	3
300 x 300	8	7	6	3
300 x 330	8	8	6	4
300 x 400	10	9	7	4
400 x 400	13	12	10	6
400 x 500	17	15	12	7

### Application Procedure

1. Hold the cartridge with the nozzle pointing upwards and unscrew the cap. Do not point towards people.
2. Fit the mixer and screw securely.
3. Release the dispenser and pull back the piston rod.
4. Insert the cartridge in the dispenser.
5. Discard the unevenly mixed initial quantity.
6. Apply CP 620, building up a seal by working from the back towards the front.
7. Attach the installation plate (if required).



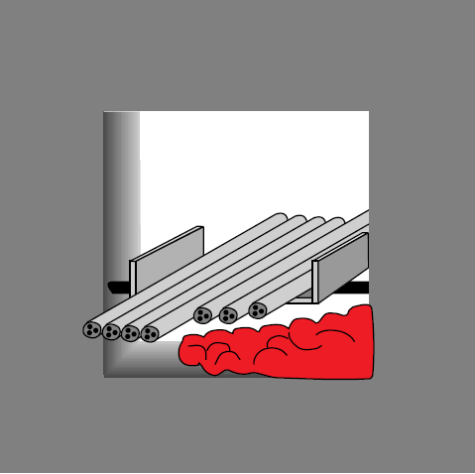
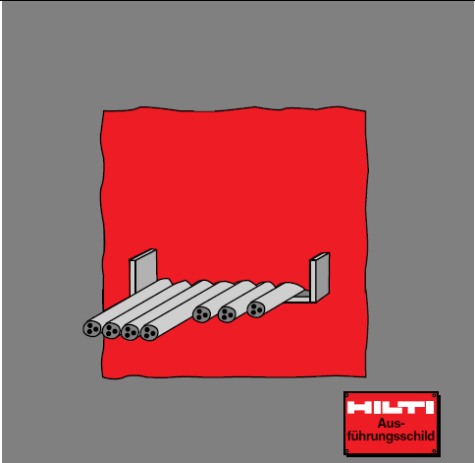
Ordering designation	Volume per unit	Package contents	Sales pack quantity	Item number
CP 620	300 ml	1x Firestop foam CP 620 EN/DE/FR/IT/NL/TH	1 pc	2025085

Please visit Hilti website for the latest item numbers and related products

**Subject:** Method Statement of CP 620  
**Material:** CP 620 Firestop foam  
**Accessory:** Hilti Dispenser CP-DSC, mixer CP 620-M and extension pipe CP 620-Ext or equivalent

Setting Operation		
1	<p>Step 1-4</p> <p>Prepare dispenser and cartridges. The Fire Foam from the first few strokes of the dispenser should be discarded until the Fire Foam in the mixer has a consistent red color.</p>	
2	<p>As stated in Step 1</p>	
3	<p>As stated in Step 1</p>	

<p>4</p>	<p>As stated in Step 1</p>	
<p>5</p>	<p>The material around the openings must be in sound condition, dry and free from dust and grease.</p>	
<p>6</p>	<p>Press the trigger on the dispenser 5 times. The initial portion of foam then ejected is unevenly mixed and should be caught in the plastic bag and disposed of.</p>	

7	<p>Apply the CP 620 Fire Foam in the opening.</p> <ul style="list-style-type: none"><li>• Begin applying CP 620 Fire Foam at the back of the opening and work toward the front. Fill the opening completely with CP 620 Fire Foam.</li><li>• When dispensed slowly, the Fire Foam can be easily built up.</li><li>• When dispensed quickly, the consistency of the Fire Foam is more liquid allowing it to flow better between the cables.</li></ul> <p>Note: The CP 620 Fire Foam becomes warm for a short time after application.</p>	
8	<p>For maintenance reasons, the application can be permanently marked with an installation plate. Mark the installation plate and fasten it in a visible position next to the seal.</p>	

**Safety precautions:**

- Keep out of reach of children.
- Wear protective clothing, safety glasses and gloves when installing.
- Request a copy of Material Safety Data System and read all usage and precautionary information.
- Never use in places where are exposed to weather and UV



# 檢測報告

No. 2018-A59

試件名稱： CP 620 Expanding Firestop Foam

報告發送致送檢單位：

送檢單位： Hilti (Hong Kong) Ltd.

(已取代原報告：No. 2005-FRT44)

複檢日期(第二次)： 2019年04月24日

再次複檢日期： 2022年04月24日

澳門大學



# 檢測報告

No: 2018-A59

試件名稱	CP 620 Expanding Firestop Foam
送檢單位名稱	Hilti (Hong Kong) Ltd.
試件製造商	Hilti
試件產地	德國
試件型號規格	尺寸：550mm(W) × 440mm(H) × 150mm(D) 顏色：紅 固化－表面：約 35s －可切割：約 1min 施工溫度：10°C~30°C 固化後適用溫度：-30°C~100°C
送樣日期	2005 年 12 月 14 日
送檢時附上報告	BRE Assessment Report 報告編號：No. CC205445A；CC205445B；CC205445C
檢測項目	防火填充材料耐火性能
檢測依據	BS476- 20: 1987
檢測日期	2005 年 12 月 14 日
檢測結論	經檢驗，此膨脹防火泡沫的耐火隔熱性達到 110 分鐘，耐火完整性達到 120 分鐘。但本試件只適用於填充的用途，而不可作為一整幅間隔牆體使用。

檢測人員，

審核，

黃傑勇  
實驗員

譚立武  
澳門大學機電工程系教授  
澳門發展及質量研究所理事會理事長

No.2018-A59

澳門大學

第 1 頁，共 17 頁

## 1 檢測目的

- 1.1 根據英國標準 BS476 第 20 部分：1987，測試 CP 620 膨脹防火泡沫之耐火性能。

## 2 引言

- 2.1 根據送檢單位的要求，膨脹防火泡沫之耐火測試需滿足英國標準 BS476 第 20 部份：1987 之要求。
- 2.2 試件由送檢單位於 2005 年 12 月 14 日安裝，並於 2005 年 12 月 14 日進行測試。
- 2.3 試件之向火面及背火面由送檢單位指定。

## 3 試件構造

- 3.1 試件由 CP 620 膨脹防火泡沫及一網電線等組成。試件尺寸為 550mm (H) × 440mm(W) × 150mm (Thk.)，試件以 CP 620 膨脹防火泡沫填充，並在中心穿過一網總直徑 100mm 的電線，試件之外觀及試件組成部分可參考送檢單位所提供之圖 1 至圖 2。詳細圖則及試件構造可參照附錄 A。
- 3.2 本報告所繪製之圖則及試件組成部份是根據送檢單位所提供的資料而作。試件之厚度、外觀及組成部份已由本實驗室檢測員檢查。



3.3 試件由送檢單位送樣並安裝於檢測框上進行測試，該檢測框由本實驗室提供。

3.4 試件在檢測前幾天內安裝完畢。

#### 4 測試設備及程序

4.1 測試設備按照英國標準 BS476 第 20 部份：1987 的要求設置。

4.2 爐體內部之平均溫度值由平均分佈於爐內的熱電偶取得，根據英國標準 BS476：第 20 部分：1987 所指定之溫度時間關係而操控升溫。溫度時間記錄圖見附錄 B 之圖 5。

4.3 爐體內設有壓力計以監察爐體壓力。

4.4 試件背火面設有 6 個熱電偶以作監察溫度之用，熱電偶分佈位置附錄 A 之圖 3 及圖 4。試件背火面所有熱電偶均用作判斷試件的耐火隔熱性。

4.5 測試過程中，棉墊及縫隙測量探棒用作評估試件的耐火完整性。

4.6 測試過程中，應記錄試件的變形情況和試件出現全部或部分毀壞時的時間。試件背火面如有火焰並持續 10 秒或以上，以及有煙散發出的情況也應記錄。

4.7 試件背火面及試件向火面於測試前後需拍照記錄。測試過程中，需拍照及用攝錄機記錄試件背火面情況以作日後評估之用。

## 5 測試數據及資料

- 5.1 測試過程所記錄之數據可參考附錄 B，記錄內容如下：
- 5.1.1 實際爐溫按照英國標準 BS476：第 20 部分：1987 所指定溫度時間關係圖。
- 5.1.2 由熱電偶所記錄試件背火面的溫度。
- 5.2 在測試過程中，試件的實驗狀況已詳細記錄於附錄 C 中以供參考。
- 5.3 有關試件圖片，見附錄 D。
- 5.4 測試開始時周圍環境溫度為 17°C。
- 5.5 在送檢單位的同意下在 122 分鐘終止本試件整個測試。

## 6 耐火極限之評定條件

- 6.1 按英國標準 BS476 第 20 部份：1987 之標準，試件之耐火表現將會根據以下之條件作評定：
- 6.1.1 耐火完整性 – 當測試過程中，i) 在試件之背火面進行棉墊點燃測試；ii) 如試件背火面出現較大的裂縫，用 6mm 及 25mm 直徑之量測棒來量測裂縫之寬和深度。如棉墊沒有被試件背火面之高溫點燃及試件背火面未出現能讓量測棒插入貫通之裂縫，試件之耐火完整性才被判斷為合格。
- 6.1.2 耐火隔熱性 – 試件背火面最高平均溫度升幅不得超過 140°C 及單點溫度升幅不得超過 180°C。

## 7 結論

- 7.1 根據 BS476 英國標準第 20 部分對防火填充材料所制定的準則 - 耐火完整性及耐火隔熱性，評估試件的耐火性能測試結果如下：

耐火隔熱性	110 分鐘
耐火完整性	120 分鐘

## 8 限制說明

- 8.1 本測試結果僅反映特定測試條件下，建築構件之試驗情況。此測試結果並非判斷試件在實際應用時防火特性的唯一標準，同時亦不反映試樣在實際火場上所能表現的防火性能。
- 8.2 本試驗結果只反映與報告相同之物料、結構、厚度及安裝方法之系統，如將此試驗結果應用於試件組合型式不同的情況時，應按照實際設計而作出相應之評估。
- 8.3 檢測報告僅對送檢試件負責。

附錄 A  
試件構造說明及附圖

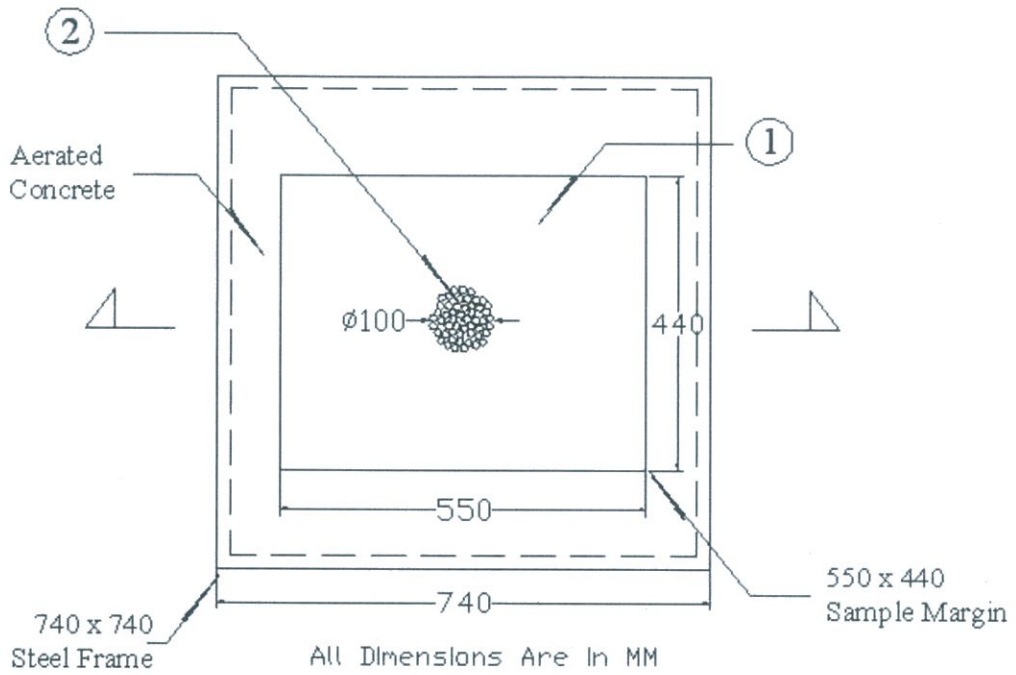


圖 1 測試試件之正視圖

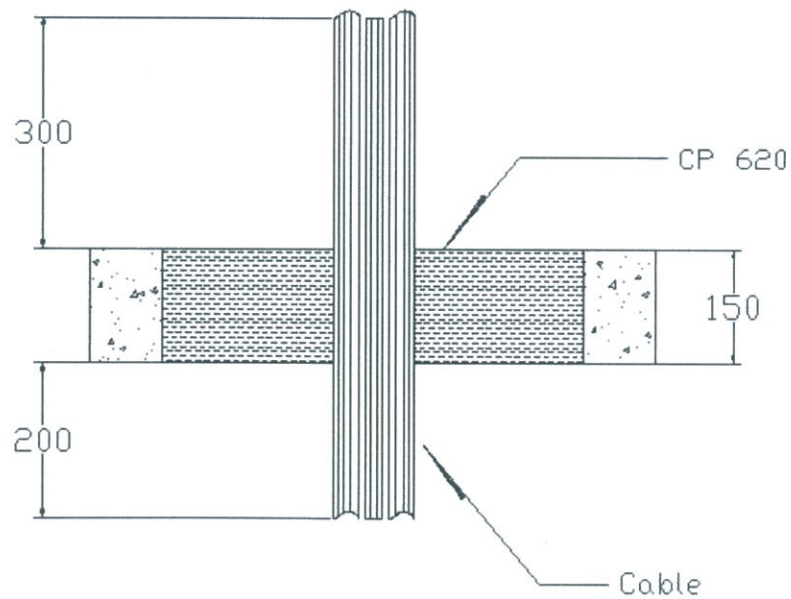
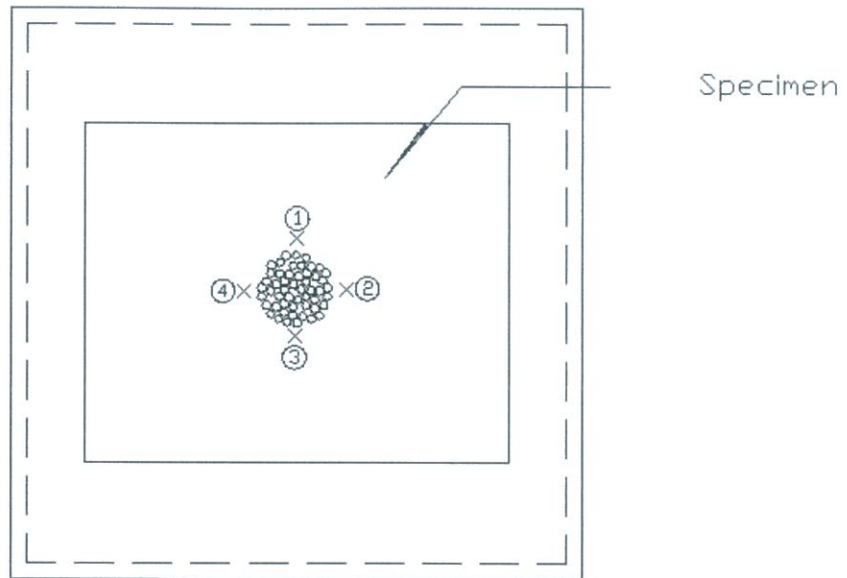


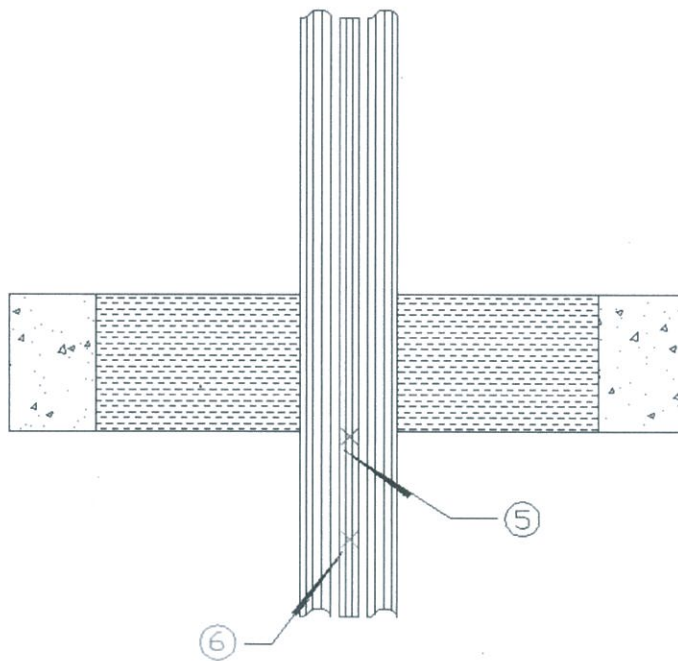
圖 2 測試試件之截面圖

✓  
✓



X: 熱電偶

圖 3 測試試件之熱電偶位置圖一



X: 熱電偶

圖 4 測試試件之熱電偶位置圖二

### 試件組件資料

(參照附錄 A 之圖 1 至圖 2)

(除非有特別指定，否則全部數值都為理論值)

(全部資料和數值由送檢單位 Hilti (Hong Kong) Ltd.提供，本實驗室並沒有求證有關數值)

表 1 試件組件資料列表

項目	組件	描述
1.	Hilti Expanding Firestop Foam	品牌：Hilti 型號：CP 620 尺寸：550mm (W) × 440mm (H) × 150mm (Thk.) 顏色：紅 固化 – 表面：約 35s – 可切割：約 1min 施工溫度：10°C~30°C 固化後適用溫度：-30°C~100°C 基礎材質：混凝土、石膏板、磚石
2.	Electric Cable	型式：16 core screed plastic sheathed computer cable bundles (5 nos.) 電纜直徑：φ12mm 總直徑：100mm 長度：650mm 材質：Copper

附錄 B  
測試數據

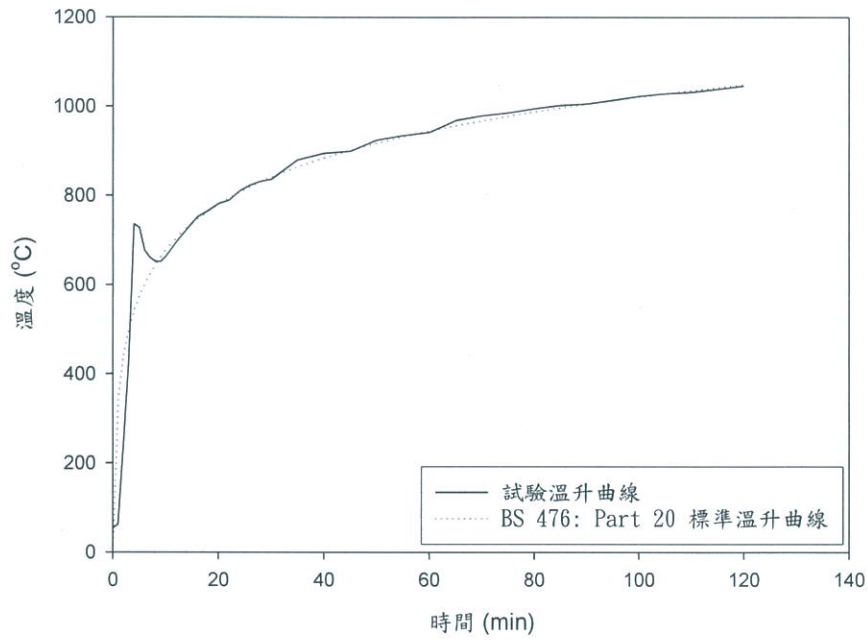


圖 5 平均爐溫與標準(溫度/時間)曲線圖

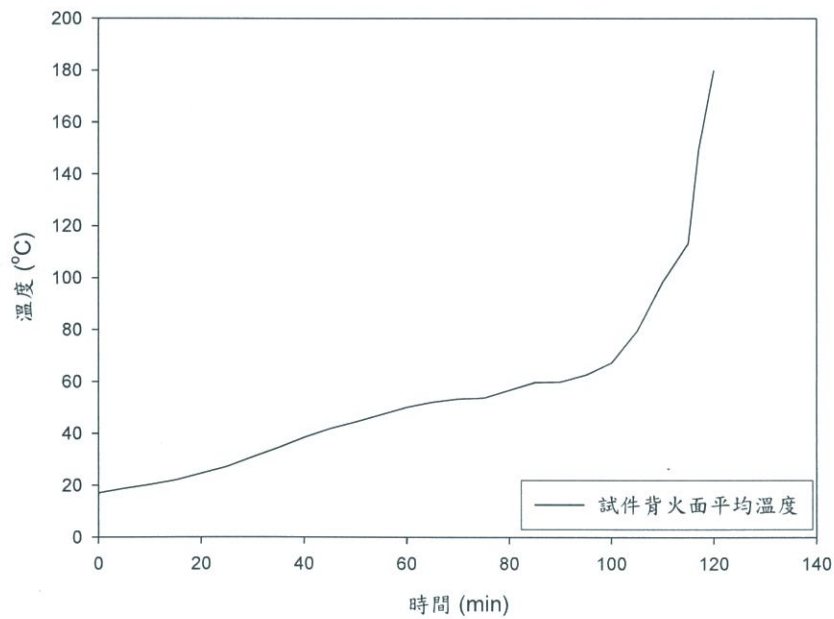


圖 6 試件背火面平均溫度/時間曲線圖

表 2 平均爐溫與標準溫度之比較

時間 (min)	標準爐內溫度 (°C)	爐內平均溫度 (°C)	標準允許公差 (%)	實際允差 (%)
0	20.00	54.01		
1	349.21	62.32		
2	444.50	248.79		
3	502.29	429.21		
4	543.89	735.57		
5	576.41	728.02		
6	603.12	676.76		
7	625.78	660.53		
8	645.46	651.95		
9	662.85	651.52		
10	678.43	662.97	±15	+2.60
12	705.44	695.53		
14	728.31	724.44		
16	748.15	751.62		
18	765.67	765.03		
20	781.35	781.27		
22	795.55	789.07		
24	808.52	809.48		
26	820.45	822.97		
28	831.50	831.32		
30	841.80	835.53	±10	+0.77
35	864.80	879.66		
40	884.74	894.29		
45	902.34	899.11		
50	918.08	924.21		
55	942.83	934.14		
60	945.34	941.44		
65	957.31	968.17		
70	968.39	978.58		
75	978.71	985.08		
80	988.37	994.63		
85	997.44	1002.26		
90	1005.99	1005.23		
95	1014.08	1013.89		
100	1021.75	1022.40		
105	1029.06	1028.37		
110	1036.02	1031.62		
115	1042.67	1038.60		
120	1049.04	1045.84	±5	+0.88



表 3 試件背火面單點及平均溫度

時間 (min)	單點熱電偶溫度 (°C)						平均溫度 (°C)
	1	2	3	4	5	6	
0	17.03	17.05	17.03	17.19	17.05	16.99	17.06
5	18.46	18.25	17.64	17.82	20.62	19.88	18.78
10	19.27	19.75	18.41	18.52	23.48	22.11	20.26
15	20.49	20.98	18.95	19.11	28.02	24.53	22.01
20	22.40	22.51	20.24	20.51	34.37	27.46	24.58
25	24.29	23.14	20.31	20.71	43.07	31.42	27.16
30	27.43	25.28	21.28	21.77	52.43	37.00	30.87
35	30.55	27.10	22.15	23.19	61.16	43.14	34.55
40	33.97	29.21	21.95	23.64	72.00	50.00	38.46
45	36.48	30.73	22.80	25.23	79.12	56.42	41.80
50	38.37	32.66	24.31	27.07	82.84	61.40	44.44
55	40.00	34.35	24.78	28.06	90.06	66.42	47.28
60	42.52	36.44	25.28	29.37	95.17	71.37	50.03
65	44.13	38.62	25.66	30.95	95.96	77.35	52.11
70	47.27	41.92	26.49	32.42	89.78	81.50	53.23
75	50.89	45.17	27.75	34.62	78.40	85.07	53.65
80	55.02	49.33	31.51	37.15	76.39	90.35	56.63
85	62.36	54.03	32.88	38.66	76.61	93.59	59.69
90	64.53	55.74	34.18	41.28	70.78	92.78	59.88
95	69.14	59.14	36.43	44.77	71.11	94.64	62.54
100	71.87	61.66	39.57	59.91	73.62	96.57	67.20
105	76.63	64.47	42.05	132.75	73.25	87.94	79.52
110	84.68	66.11	45.59	<b>240.51*</b>	78.62	74.47	98.33
115	97.14	66.68	48.63	280.52	117.26	69.89	113.35
117	187.17	67.58	51.08	306.72	<b>207.75*</b>	75.52	149.30
120	190.20	69.89	56.24	285.13	320.56	157.73	<b>179.96**</b>

\* 試件背火面熱電偶單點溫度超溫

\*\* 試件背火面平均溫度超溫

## 附錄 C

### 觀察情況

表 4 測試過程中，觀察試件情況如下

時間 (小時:分鐘)	事件
-0:01	攝錄機、監察和操控儀器啓動。
0:00	開啓石油氣閥，測試開始。周圍環境溫度為 17°C。
0:02	試件背火面電線週邊有煙氣溢出。
0:05	試件背火面電線週邊煙氣溢出量減少。
0:30	在試件背火面進行棉墊測試 -- 棉墊沒有被點燃。
0:45	試件背火面電線週邊有煙氣持續溢出。
1:00	在試件背火面進行棉墊測試 -- 棉墊沒有被點燃。 試件之耐火完整性及耐火隔熱性仍能符合標準。
1:15	試件背火面電線週邊有煙氣持續溢出。
1:30	在試件背火面進行棉墊測試 -- 棉墊沒有被點燃。
1:40	試件背火面電線及防火泡沫的接縫位置變黑。
1:50	<b>試件背火面熱電偶 TC4 溫度達到 241.50°C，試件之耐火隔熱性失效。</b>
1:57	試件背火面熱電偶 TC5 溫度達到 207.75°C。
1:58	試件背火面左上角位置煙氣溢出量增加，電線及防火泡沫的接縫位置變黑面積擴大。
2:00	試件之耐火完整性仍能符合標準。
2:01	<b>試件背火面出現連續性超過 10s 的焰，試件之耐火完整性失效。</b>
2:02	在送檢單位同意情況下，測試結束。



附錄 D

圖片

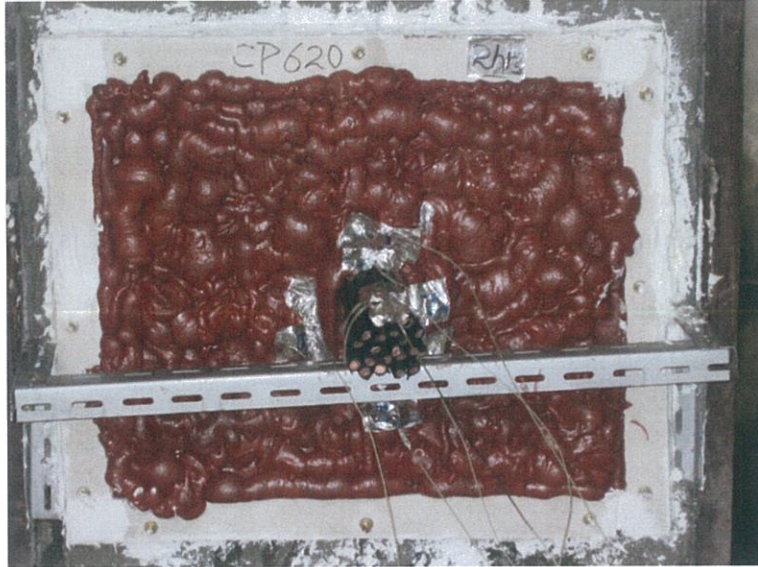


圖 7 測試前試件背火面



圖 8 測試前試件向火面



圖 9 試件背火面熱電偶位置

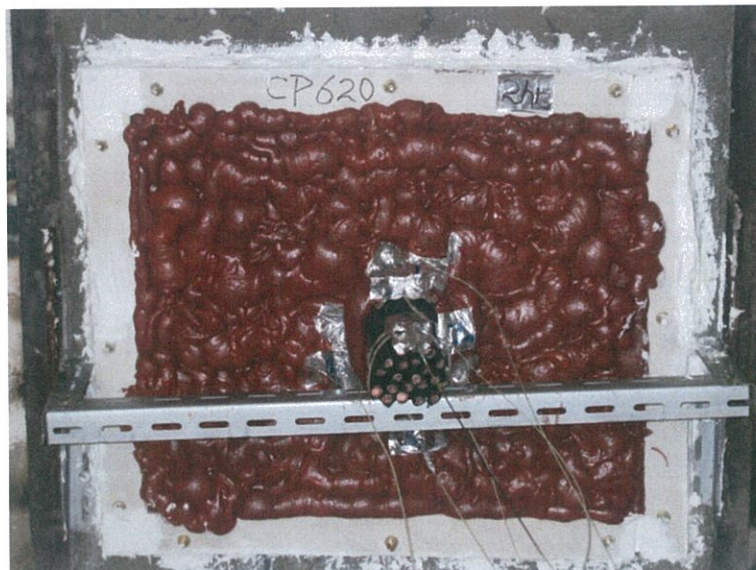


圖 10 測試 30min 時試件背火面

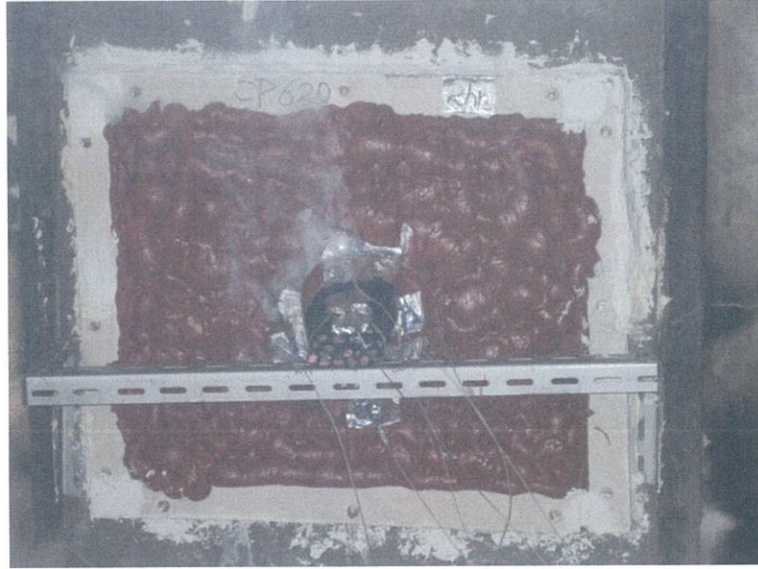


圖 11 測試 60min 時試件背火面



圖 12 試件背火面煙氣溢出情況



圖 13 測試 90min 時試件背火面

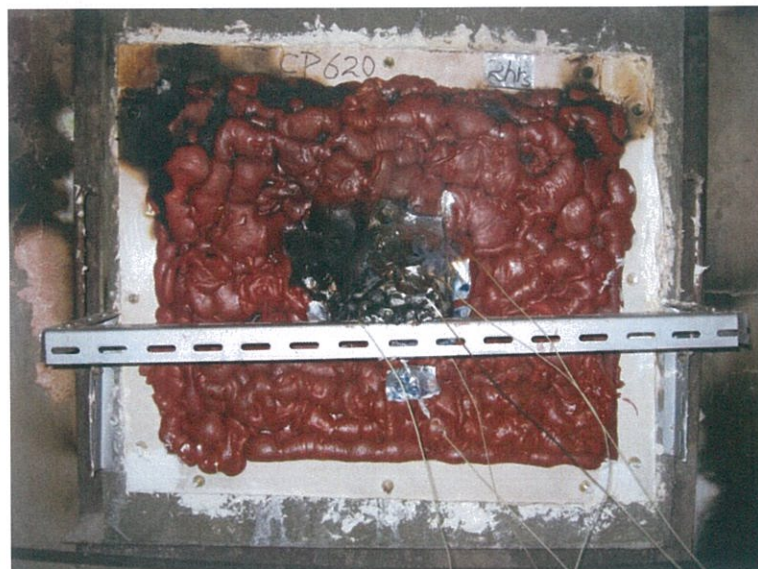


圖 14 測試 120min 後試件背火面



圖 15 測試後試件向火面

-----報告結束-----



澳門特別行政區政府  
 Governo da Região Administrativa Especial de Macau  
 消防局  
 Corpo de Bombeiros

頁編號 1/1  
 Pág. n.  
 文件編號 275/DT/2006  
 Inf. n.  
 日期: 14 / 02 / 2006  
 Data

審閱/Visto  
 於 Em 14/02/2006  
 技術廳廳長  
 O Chefe do D.T.

意見書

事由：要求審批“HILTI”喜利得防火延燒產品 – CP 620 Expanding Firestop Foam

參件： 進入編號 1104 (25/01/2006)  
 喜利得(香港)有限公司來函編號：M-AL\_LE08\_06(18/01/2006)  
 意見書編號 246/DT/2006 (09/02/2006)

- Ø1. 上述公司交來以下 CP 620 Expanding Firestop Foam 的資料：
- 澳門大學按照 BS476 Part20:1987 檢驗依據測試標準發出的 CP 620 Expanding Firestop Foam(膨脹性防火發泡劑)檢驗報告複印本 (No2005-FRT44)；
  - Underwriters Laboratories(UL Online Certifications Directory)XHHW.R13240 Fill, Void or Cavity Materials –CP 620 Expanding Firestop Foam for use in Through –Penetration Firestop System 資料；
  - Building Research Establishment Ltd.防火研究中心發山評估報告複印本(編號 CC205445A、CC20544B & CC20544C)
- Ø2. 根據上述的資料分析後，包括 CP 620 Expanding Firestop Foam(膨脹性防火發泡劑)的試件組合於試驗結果中顯示具 CRF110 能力。然而，如將此組件應用於不同組合形式使用時，應按照實際用途而作出相應評估。
- Ø3. 本局對 CP 620 Expanding Firestop Foam(膨脹性防火發泡劑)使用於符合《防火安全規章》規範的標準時沒有異議。但最終決定仍須徵詢權限部門(土地工務運輸局)之意見。

二零零六年二月十三日，於技術廳研究暨試驗科

研究暨試驗科科長

黃勁松  
 副一等消防區長





**APPROVED**

# Certificate of Compliance

This certificate is issued for the following firestopping products:

- |  |                                 |
|--|---------------------------------|
| FS-ONE High Performance Intumescent Firestop Sealant | CP 643N Firestop Collar         |
| CP680 Cast-In Firestop Device                        | CP606 Flexible Firestop Sealant |
| CP680-N Cast-In Firestop Device                      | CP-672 Firestop Joint Spray     |
| CP680-P Cast-In Firestop Device                      | CP620 Firestop Foam             |
| CP682 Cast-In Firestop Device                        | CP680-M Cast-In Firestop Device |
| CP 648E Wrap Strip                                   | CP 675T Firestop Board          |
| CP617 Firestop Putty                                 | CP618 Firestop Putty            |
| CP601 S Elastomeric Firestop Sealant                 | CP619T Putty Roll               |
| CP636 Firestop Mortar                                | CP670 Firestop Board            |
| CP 604 Self Leveling Firestop Sealant                | CP673 Firestop Coating          |
| CP611A High Performance Intumescent Firestop Sealant |                                 |

**Prepared for:**

Hilti AG  
Feldkircherstrasse 100  
FL-9494 Schaan  
Liechtenstein

FM Approvals Class: 4990

Approval Identification: 3051456

Approval Granted: June 4, 2014

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com).

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

Cynthia E. Frank  
AVP - Manager, Materials  
FM Approvals  
1151 Boston-Providence Turnpike  
Norwood, MA 02062



Member of the FM Global Group

Issued: June 30, 2016

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20160829-R13240  
**Report Reference** R13240  
**Issue Date** 2016-August-29

**Issued to:** Hilti Construction Chemicals, Div of Hilti Inc.  
5400 S 122<sup>nd</sup> East Ave  
Tulsa, OK 74146

**This is to certify that representative samples of** Fill, Void or Cavity Materials  
Fill, Void or Cavity Materials Certified for Canada

CP 620 Fire Foam for use in Through-Penetration Firestop Firestop Systems as currently described in the UL Fire Resistance Directory and in the Products Certified for Canada Directory.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** ANSI/UL 1479, "Fire Tests of Through-Penetration Firestops,"  
CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems."

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



Attn. : To whom it may concern

Date : 26 September 2023

Ref. : 105/FP/DY/23

Subject : Country of Origin- Hilti CP 620 Firestop Foam

Dear Sir / Madam,

Enclosed please find the information of Hilti CP 620 Firestop Foam.

Brand Name : Hilti

Model Name : Hilti CP 620 Firestop Foam

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Dennis Yeung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,  
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Dennis Yeung (+852 9723 4621)

Country of Origin : Germany

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at [hksales@hilti.com](mailto:hksales@hilti.com).

Yours faithfully,



Dennis Yeung  
Head of Product Leadership Strategy, F&P



July 30, 2014

To Whom It May Concern:

Re: Hilti CP 620 Fire Foam – LEED Info.

- The Hilti CP 620 Fire Foam is manufactured in Germany.
- The CP 620 tube can be completely recycled.
- There is no recycled content in Hilti CP 620 Fire Foam and it cannot be recycled.
- The Hilti CP 620 Fire Foam does not share any rapidly renewable materials.
- The VOC content of Hilti CP 620 Fire Foam is 15 g/l.

If you would like to know more about Hilti solutions for LEED buildings or should you have any further question please feel free to contact me at my email or mobile number as shown below.

Sincerely,

Andrew Lau

Product Manager - Firestop

Hilti (Hong Kong) Limited

Email: [andrew.lau@hilti.com](mailto:andrew.lau@hilti.com)

Mobile: (852) 9843-6291

**Hilti (Hong Kong) Ltd.**  
701-704 | Tower A | Manulife Financial Centre  
223 Wai Yip Street | Kwun Tong

Kowloon | Hong Kong

**P** +852-8228 8118 | **F** +852-2954 1751

**[www.hilti.com.hk](http://www.hilti.com.hk)**

**To whom it may concern**

Date: 22<sup>nd</sup> April 2016

Dear Sir / Madam,

**Subject: Hilti Firestop Products non-CFC and Ozone Confirmation**

Referring to your enquiry about the captioned subject, please be advised that:

Hilti firestop products, CP620 Firestop Foam is free of CFC, HCFC nor other ozone depletion elements.

CFC, HCFC and ozone depletion elements were not used during the product process neither.

Should you have further questions, please do not hesitate to contact our Technical Representatives or Customer Service Hotline at 8228-8118.

Yours sincerely,



Andrew Lau  
Product Manger

# CFS-F SOL; CP 620

## Safety information for 2-Component-products

Issue date: 13/01/2021

Revision date: 13/01/2021

Supersedes: 19/12/2017

Version: 8.0

### SECTION 1: Kit identification

#### 1.1 Product identifier

Trade name

CFS-F SOL; CP 620



Product code

BU Fire Protection

#### 1.2 Details of the supplier of the Safety information for 2-Component-products

Hilti (Hong Kong) Ltd.  
701-704, 7/F, Tower A, Manulife Financial Centre  
223 Wai Yip Street, Kwun Tong  
Kowloon - Hong Kong  
T +852 27734 700  
[hksales@hilti.com](mailto:hksales@hilti.com)

### SECTION 2: General information

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

### SECTION 3:

#### Classification of the Product

##### Classification according to the United Nations GHS (Rev. 4, 2011)

Acute Tox. 4 (Inhalation)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
Repr. 2	H361
STOT SE 3	H335
STOT RE 2	H373
Aquatic Chronic 3	H412

#### Label elements

##### Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS UN)



GHS07

GHS08

Signal word (GHS UN)

Danger

Hazardous ingredients

4,4'-diphenylmethanediisocyanate, isomeres and homologues; zinc borate

Hazard statements (GHS UN)

H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.  
H332 - Harmful if inhaled.  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

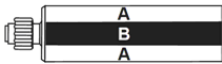
# CFS-F SOL; CP 620

## Safety information for 2-Component-products

### Precautionary statements (GHS UN)

- H335 - May cause respiratory irritation.
- H351 - Suspected of causing cancer.
- H361 - Suspected of damaging fertility or the unborn child.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H412 - Harmful to aquatic life with long lasting effects.
- P260 - Do not breathe vapours.
- P280 - Wear eye protection, protective clothing, protective gloves.
- P284 - Wear respiratory protection.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P342+P311 - If experiencing respiratory symptoms: Call a doctor, a POISON CENTER.

### Additional information



Name	General description	Quantity	Unit	Classification according to the United Nations GHS
CFS-F SOL / CP 620, B		1	pcs	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
CFS-F SOL / CP 620, A (RoW)		1	pcs	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 Aquatic Chronic 3, H412

### SECTION 4: General advice

General advice

For professional users only

### SECTION 5: Safe handling advice

Environmental precautions

Avoid release to the environment

Storage conditions

Store in a well-ventilated place.  
Keep cool.

Precautions for safe handling

Do not handle until all safety precautions have been read and understood.  
Wear personal protective equipment  
Do not breathe vapours.  
Use only outdoors or in a well-ventilated area.  
Avoid contact with skin and eyes  
In case of inadequate ventilation wear respiratory protection.

Methods for cleaning up

Take up liquid spill into absorbent material  
Notify authorities if product enters sewers or public waters

Incompatible materials

Sources of ignition  
Direct sunlight

Incompatible products

Strong bases  
Strong acids

### SECTION 6: First aid measures

First-aid measures after eye contact

Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

# CFS-F SOL; CP 620

## Safety information for 2-Component-products

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First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell
First-aid measures after skin contact	Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing.
First-aid measures general	If you feel unwell, seek medical advice (show the label where possible)
Symptoms/effects after eye contact	Eye irritation
Symptoms/effects after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	Irritation May cause an allergic skin reaction.
Other medical advice or treatment	Treat symptomatically

### SECTION 7: Fire fighting measures

Firefighting instructions	Use water spray or fog for cooling exposed containers Exercise caution when fighting any chemical fire Prevent fire fighting water from entering the environment
Protection during firefighting	Self-contained breathing apparatus Complete protective clothing
Hazardous decomposition products in case of fire	Toxic fumes may be released Carbon dioxide Carbon monoxide

### SECTION 8: Other information

No data available



# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Issue date: 08/02/2021 Revision date: 08/02/2021

Supersedes: 19/12/2017

Version: 7.2

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	Mixture
Trade name	CFS-F SOL / CP 620, A
Product code	BU Fire Protection

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

No additional information available

#### 1.4. Supplier's details

##### Supplier

Hilti (Hong Kong) Ltd.  
701-704, 7/F, Tower A, Manulife Financial Centre  
223 Wai Yip Street, Kwun Tong  
Kowloon - Hong Kong  
T +852 27734 700  
[hksales@hilti.com](mailto:hksales@hilti.com)

##### Department issuing data specification sheet

Hilti AG  
Feldkircherstraße 100  
9494 Schaan - Liechtenstein  
T +423 234 2111  
[chemicals.hse@hilti.com](mailto:chemicals.hse@hilti.com)

#### 1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700
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### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Skin corrosion/irritation, Category 2	H315	Calculation method
Serious eye damage/eye irritation, Category 2A	H319	Calculation method
Reproductive toxicity, Category 2	H361	Calculation method
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412	Calculation method

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child, Causes skin irritation, Causes serious eye irritation, Harmful to aquatic life with long lasting effects.

#### 2.2. GHS Label elements, including precautionary statements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



GHS07



GHS08

Signal word (GHS UN)

Warning

Hazardous ingredients

hexaboron dizinc undecaoxide

# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Hazard statements (GHS UN)	H315 - Causes skin irritation H319 - Causes serious eye irritation H361 - Suspected of damaging fertility or the unborn child H412 - Harmful to aquatic life with long lasting effects
Precautionary statements (GHS UN)	P280 - Wear eye protection, protective clothing, protective gloves. P302+P352 - IF ON SKIN: Wash with plenty of water. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 2.3. Other hazards which do not result in classification

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Ethylenediamine, propoxylated	(CAS-No.) 25214-63-5	25 – 40	Serious eye damage/eye irritation, Category 2A, H319
hexaboron dizinc undecaoxide	(CAS-No.) 12767-90-7	2.5 – 5	Reproductive toxicity, Category 2, H361 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411

Full text of H-statements: see section 16

## SECTION 4: First-aid measures

### 4.1. Description of necessary first-aid measures

First-aid measures general	IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after skin contact	Irritation.
Symptoms/effects after eye contact	Eye irritation.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
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### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Toxic fumes may be released.
--	------------------------------

# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### 5.3. Special protective actions for fire-fighters

Protection during firefighting Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures Ventilate spillage area. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and materials for containment and cleaning up

Methods for cleaning up Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature 5 – 25 °C

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls Ensure good ventilation of the work station.

Environmental exposure controls Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	3 (> 60 minutes)			EN ISO 374

Eye protection

Type	Use	Characteristics	Standard
Safety glasses	Droplet		EN 166, EN 170

# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Skin and body protection

Wear suitable protective clothing

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s)



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	Liquid
Colour	red.
Odour	Not available
Odour threshold	Not available
Melting point	Not applicable
Freezing point	Not available
Boiling point	Not available
Flammability (solid, gas)	Not applicable
Explosive limits	Not available
Lower explosive limit (LEL)	Not available
Upper explosive limit (UEL)	Not available
Flash point	Not applicable.
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	Not determined
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	Not available
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	≈ 1.17 g/cm <sup>3</sup>
Relative density	Not available
Relative vapour density at 20 °C	Not available
Solubility	Not available
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle specific surface area	Not applicable

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

VOC content	15 mg/l EPA method 24 (CP 620, Comp. A + B)
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# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

hexaboron dizinc undecaoxide (12767-90-7)	
LD50 oral rat	> 5000 mg/kg bodyweight (FIFRA (40 CFR), Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Skin, 14 day(s))
LC50 Inhalation - Rat	> 4.95 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value of similar product, Inhalation (dust), 14 day(s))

Skin corrosion/irritation	Causes skin irritation. pH: Not determined
Serious eye damage/irritation	Causes serious eye irritation. pH: Not determined
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	Not classified



# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Hazardous to the aquatic environment, long-term (chronic)	Harmful to aquatic life with long lasting effects.
Classification procedure (Hazardous to the aquatic environment, long-term (chronic))	Calculation method

### 12.2. Persistence and degradability

CFS-F SOL / CP 620, A	
Persistence and degradability	No additional information available
hexaboron dizinc undecaoxide (12767-90-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

CFS-F SOL / CP 620, A	
Bioaccumulative potential	No additional information available
hexaboron dizinc undecaoxide (12767-90-7)	
Bioaccumulative potential	No bioaccumulation data available.

### 12.4. Mobility in soil

CFS-F SOL / CP 620, A	
Mobility in soil	No additional information available
hexaboron dizinc undecaoxide (12767-90-7)	
Ecology - soil	Adsorbs into the soil.

### 12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
<b>14.1. UN number</b>			
Not applicable	Not applicable	Not applicable	Not applicable



# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Rail transport

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

## SECTION 16: Other information

SDS Major/Minor	None
Issue date	08/02/2021
Revision date	08/02/2021
Supersedes	19/12/2017

Section	Changed item	Change	Comments
2.2	Precautionary statements (GHS UN)	Modified	

Full text of H-statements:	
H315	Causes skin irritation
H319	Causes serious eye irritation
H361	Suspected of damaging fertility or the unborn child
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects



# CFS-F SOL / CP 620, A

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*





# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Issue date: 08/02/2021 Revision date: 08/02/2021

Supersedes: 19/12/2017

Version: 7.3

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	Mixture
Trade name	CFS-F SOL / CP 620, B
Product code	BU Fire Protection

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

No additional information available

#### 1.4. Supplier's details

##### Supplier

Hilti (Hong Kong) Ltd.  
701-704, 7/F, Tower A, Manulife Financial Centre  
223 Wai Yip Street, Kwun Tong  
Kowloon - Hong Kong  
T +852 27734 700  
[hksales@hilti.com](mailto:hksales@hilti.com)

##### Department issuing data specification sheet

Hilti AG  
Feldkircherstraße 100  
9494 Schaan - Liechtenstein  
T +423 234 2111  
[chemicals.hse@hilti.com](mailto:chemicals.hse@hilti.com)

#### 1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700
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### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Acute toxicity (inhal.), Category 4	H332	Expert judgment
Acute toxicity (inhalation:dust,mist) Category 4	H332	Calculation method
Skin corrosion/irritation, Category 2	H315	Calculation method
Serious eye damage/eye irritation, Category 2A	H319	Calculation method
Respiratory sensitisation, Category 1	H334	Calculation method
Skin sensitisation, Category 1	H317	Calculation method
Carcinogenicity, Category 2	H351	Calculation method
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	Calculation method
Specific target organ toxicity — Repeated exposure, Category 2	H373	Calculation method

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Suspected of causing cancer,May cause damage to organs through prolonged or repeated exposure,Harmful if inhaled,May cause respiratory irritation,Causes skin irritation,May cause an allergic skin reaction,Causes serious eye irritation,May cause allergy or asthma symptoms or breathing difficulties if inhaled.

# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### 2.2. GHS Label elements, including precautionary statements

#### Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



GHS07

GHS08

Signal word (GHS UN)

Danger

Hazardous ingredients

4,4'-diphenylmethanediisocyanate, isomeres and homologues; 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate

Hazard statements (GHS UN)

H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H332 - Harmful if inhaled  
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H335 - May cause respiratory irritation  
 H351 - Suspected of causing cancer  
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS UN)

P260 - Do not breathe vapours.  
 P280 - Wear eye protection, protective clothing, protective gloves.  
 P284 - Wear respiratory protection.  
 P302+P352 - IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P342+P311 - If experiencing respiratory symptoms: Call a doctor, a POISON CENTER.

### 2.3. Other hazards which do not result in classification

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
4,4'-diphenylmethanediisocyanate, isomeres and homologues	(CAS-No.) 9016-87-9	54 – 90	Flammable liquids Not classified Acute toxicity (oral) Not classified Acute toxicity (dermal) Not classified Acute toxicity (inhal.), Category 4, H332 Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319 Respiratory sensitisation, Category 1, H334 Skin sensitisation, Category 1, H317 Carcinogenicity, Category 2, H351 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation, H335 Specific target organ toxicity — Repeated exposure, Category 2, H373
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	(CAS-No.) 101-68-8	27 – 54	Acute toxicity (inhal.), Category 4, H332 Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319 Respiratory sensitisation, Category 1, H334

# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

			Skin sensitisation, Category 1, H317 Carcinogenicity, Category 2, H351 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation, H335 Specific target organ toxicity — Repeated exposure, Category 2, H373
tris(2-chloro-1-methylethyl) phosphate	(CAS-No.) 13674-84-5	5 – 10	Flammable liquids Not classified Acute toxicity (oral), Category 4, H302 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402

Full text of H-statements: see section 16

## SECTION 4: First-aid measures

### 4.1. Description of necessary first-aid measures

First-aid measures general	IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	Eye irritation.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
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### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Toxic fumes may be released.
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### 5.3. Special protective actions for fire-fighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
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# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### 6.1.2. For emergency responders

Protective equipment

Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and materials for containment and cleaning up

Methods for cleaning up

Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information

Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.

Hygiene measures

Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Storage temperature

5 – 25 °C

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls

Ensure good ventilation of the work station.

Environmental exposure controls

Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	3 (> 60 minutes)			EN ISO 374

Eye protection

Type	Use	Characteristics	Standard
Safety glasses	Droplet		EN 166, EN 170

Skin and body protection

Wear suitable protective clothing

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

Device	Filter type	Condition	Standard
	Type A - High-boiling (>65 °C) organic compounds		

Personal protective equipment symbol(s)

# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	Liquid
Colour	amber.
Odour	Not available
Odour threshold	Not available
Melting point	Not applicable
Freezing point	Not available
Boiling point	Not available
Flammability (solid, gas)	Not applicable
Explosive limits	Not available
Lower explosive limit (LEL)	Not available
Upper explosive limit (UEL)	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	Not available
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	Not available
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	≈ g/cm <sup>3</sup>
Relative density	Not available
Relative vapour density at 20 °C	Not available
Solubility	Not available
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle specific surface area	Not applicable

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

VOC content	15 g/l EPA method 24 (CP 620, Comp. A + B)
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# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Harmful if inhaled. Harmful if inhaled.

ATE UN (gases)	4500 ppmv/4h
ATE UN (vapours)	11 mg/l/4h
ATE UN (dust,mist)	1.5 mg/l/4h

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 9400 mg/kg
LC50 Inhalation - Rat	> 0.354 g/m <sup>3</sup>
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LD50 oral rat	1101 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 oral	1150 – 1750
LD50 dermal rabbit	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 5 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Suspected of causing cancer.
Reproductive toxicity	Not classified
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified

# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 other aquatic organisms 1	> 1000 mg/l (96 h, Literature study)
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LC50 fish 1	51 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	131 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	82 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

#### 12.2. Persistence and degradability

CFS-F SOL / CP 620, B	
Persistence and degradability	No additional information available
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Persistence and degradability	Not readily biodegradable in water.

#### 12.3. Bioaccumulative potential

CFS-F SOL / CP 620, B	
Bioaccumulative potential	No additional information available
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
BCF fish 1	1 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Kow)	10.46 (Calculated, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
BCF fish 1	0.8 – 2.8 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Pisces, Flow-through system, Experimental value)
Partition coefficient n-octanol/water (Log Kow)	2.68 (Experimental value, Equivalent or similar to OECD 117)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

CFS-F SOL / CP 620, B	
Mobility in soil	No additional information available
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Partition coefficient n-octanol/water (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.



# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log K <sub>oc</sub> )	2.24 (log K <sub>oc</sub> , OECD 106: Adsorption/Desorption Using a Batch Equilibrium Method, Read-across)
Ecology - soil	Low potential for adsorption in soil.

### 12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
<b>14.1. UN number</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available			

### 14.6. Special precautions for user

#### Overland transport

No data available

#### Transport by sea

No data available

#### Air transport

No data available

#### Rail transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable





# CFS-F SOL / CP 620, B

## Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

### SECTION 16: Other information

SDS Major/Minor	None
Issue date	08/02/2021
Revision date	08/02/2021
Supersedes	19/12/2017

Full text of H-statements:	
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

