



Hilti CP 620 Firestop Foam

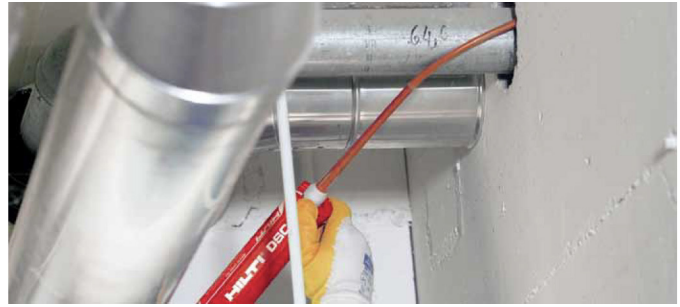
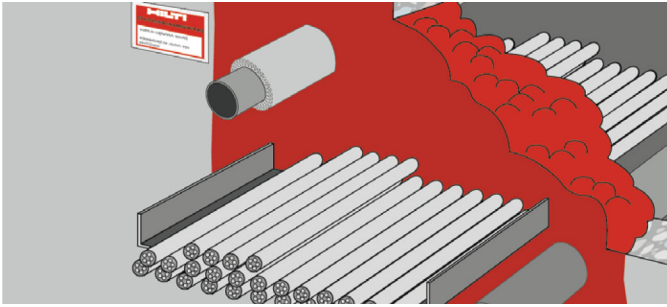
Submission Folder

Product Information and Method Statement	2
Test Reports	
BRE No. CC205445D Review 4 Issue 1	6
Letters	
Government Letters	18
Country of Origin	21
LEED Letter	22
Non-CFC and Ozone Confirmation	23
Material Safety Data Sheet	24
Job Reference	44



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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

Chemical basis	Two-component polyurethane foam
Colour	Red
Base materials	Concrete, Masonry, Drywall
Volume per unit	300 ml
Foam yield (up to)	1.9 l
Approx. cut time (at 23°C / 50% rel. humidity)	2 min
Application temperature range	0 - 40 °C
Temperature resistance range	-30 - 100 °C
Storage and transportation temperature range	5 - 25 °C
Shelf life¹⁾	9 months

¹⁾ 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).

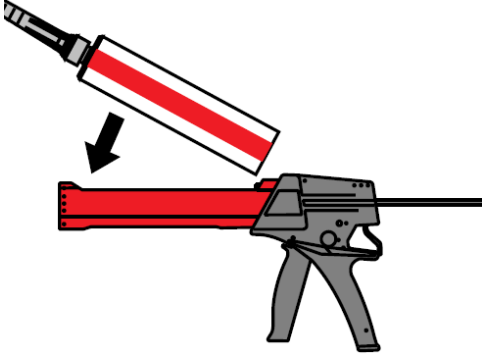
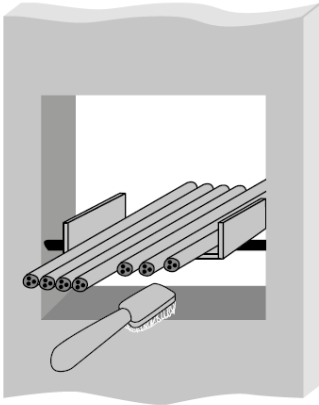
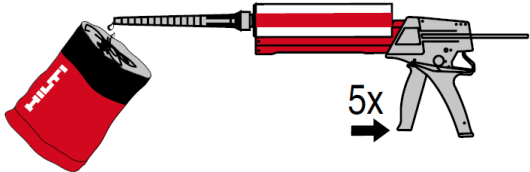



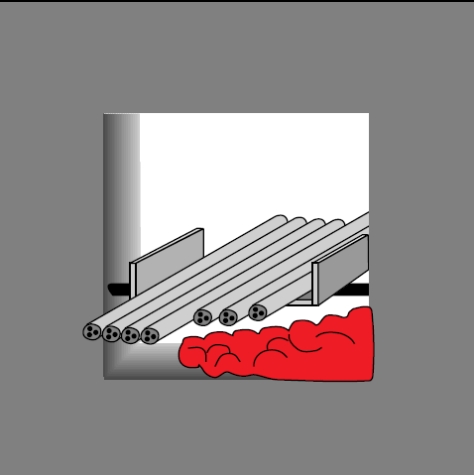
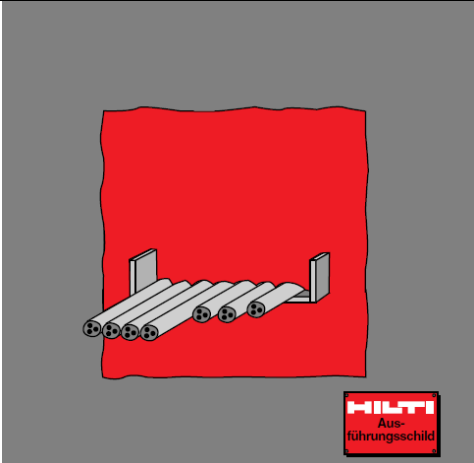
Ordering designation	Volume per unit	Package contents	Sales pack quantity	Item number
CP 620	300 ml	1x Firestop foam CP 620 EN/DE/FR/IT/NL/TH	1 pc	2025085

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	As stated in Step 1	
3	As stated in Step 1	

4	As stated in Step 1	
5	The material around the openings must be in sound condition, dry and free from dust and grease.	
6	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> > 15s – STOP</p>

7	<p>Apply the CP 620 Fire Foam in the opening.</p> <ul style="list-style-type: none">• 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.• When dispensed slowly, the Fire Foam can be easily built up.• When dispensed quickly, the consistency of the Fire Foam is more liquid allowing it to flow better between the cables. <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

BRE Global Assessment Report

An assessment of the fire performance of Hilti CP 620 building services penetration sealing systems

Prepared for: Hilti Entwicklungsgesellschaft mbH

Date: 25 January 2018

Report Number: CC 205445D Review 4 Issue 1

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Date of original report 10 September 2001
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Table of contents

1	Introduction	3
2	Scope	3
3	Supporting data	3
3.1	BRE test report TE 203650	3
3.2	BRE test report FG 7251	4
3.3	CTICM test report 01-V-126	5
3.4	WFRC test report WARRES no. 69752	5
3.5	WFRC test report WARRES no. 69753	6
3.6	SP test report no. 97R1 3024 B	6
4	Description of proposals	6
4.1	Supporting structure	6
4.2	Aperture framing method	7
4.3	Penetrating services	7
4.3.1	Metal pipes	7
4.3.2	Plastic pipes	7
4.3.3	Electrical cables	8
4.4	CP 620 Expanding Fire Seal	8
5	Assessment	9
5.1	Comparison of standards	9
5.2	Supporting structure	9
5.3	Aperture framing method	10
5.4	Penetrating services	10
6	Conclusion	10
7	Validity of the assessment	10
7.1	Declaration by applicant	10
7.2	BRE Global declaration	11



1 Introduction

A number of fire resistance tests have been carried out on Hilti CP 620 Expanding Fire Seal penetration sealing systems. This report describes the assessment which has been carried out of the fire resistance of the Hilti CP 620 penetration sealing systems in terms of the adopted insulation and integrity criteria of BS 476: Part 20: 1987.

2 Scope

This assessment report covers the fire resistance of the CP 620 penetration sealing system, for up to two hours, in terms of the adopted integrity and insulation criteria of BS 476: Part 20: 1987.

3 Supporting data

This assessment is based on supporting test data which is more than five years old. This supporting data has therefore been reviewed against current test procedures.

3.1 BRE test report TE 203650

A 120mm-thick drywall partition incorporating four services penetration seals was subjected to an ad-hoc fire resistance test employing the appropriate procedures and criteria of BS 476: Part 20:1987 on 2 March 2001, for 132 minutes. A total of four penetration sealing systems were tested but only two are relevant to this assessment report.

The specimen comprised a plasterboard partition, nominally 3000mm x 3000mm, with several penetration sealing systems. The partition comprised a 70mm-wide steel framework faced on the each side with two layers of 12.5mm-thick Lafarge Firecheck (Type 5) plasterboard.

Penetration A consisted of a 400mm-wide x 500mm-high opening in the plasterboard partition, sealed with nominally 145mm thick Hilti CP 620 Firestop foam. The following services passed through the seal: a 76mm (internal diameter) steel pipe, a 100mm x 100mm square plastic conduit carrying eleven 12mm-diameter 5-core cables and a 150mm-wide cable tray carrying twelve 12mm-diameter cables and one 18mm-diameter cable. The space in the conduit above the cables was packed with Hilti CP 651 cushions at the location where the service passed through the partition.

Penetration C consisted of a 400mm x 400mm opening in the plasterboard partition sealed with nominally 145mm-thick Hilti CP 620 Firestop foam. The following services passed through the seal: a 76mm-diameter copper pipe and a 100mm-square plastic conduit carrying eleven 12mm-diameter cables. The space in the conduit above the cables was packed with Hilti CP 657 block at the location where the conduit passed through the partition.

The Hilti CP 620 foam extended approximately 25mm away from the surface of the seal along each service at a thickness of approximately 25mm.



Seal A satisfied the adopted integrity and insulation criteria for 132minutes and 44 minutes respectively. Seal C satisfied the adopted integrity and insulation criteria for 132minutes and 20 minutes respectively.

3.2 BRE test report FG 7251

A 120mm-thick drywall partition incorporating six services penetration seals was subjected to an ad-hoc fire resistance test employing the appropriate procedures and criteria of BS 476: Part 20:1987 on 11 May 2001, for 151 minutes.

The specimen comprised a plasterboard partition, nominally 3000mm x 3000mm, with several penetration sealing systems. The partition comprised a 70mm-wide steel framework faced on the each side with two layers of 12.5mm-thick Lafarge Firecheck (type 5) plasterboard.

- Penetration 1 consisted of a 440mm-wide x 550mm-high opening in the plasterboard partition. Two layers of 12.5mm-thick x 200mm-wide Firecheck plasterboard were glued centrally (using Hilti CP 606) around the perimeter of the opening in the partition resulting in a 390mm x 500mm opening which was filled with nominally 200mm-thick Hilti CP 620 Firestop foam. The following services passed through the seal: a 114mm-internal diameter steel pipe insulated with 40mm-thick foil-faced stone mineral wool insulation, a 110mm-diameter PVC pipe and a 250mm-wide cable tray carrying five 18mm-diameter electrical cables and nine 12mm-diameter electrical cables. A Hilti CP 643 Firestop collar was located around the PVC pipe against the seal on each face.
- Penetration 2 was of identical construction to penetration 1 with the exception that the seal was located so that it was flush with the unexposed face of the partition.
- Penetration 3 consisted of a 440mm-wide x 550mm-high opening in the plasterboard partition. One 12.5mm layer of Firecheck plasterboard was screwed to each face of the partition around this aperture, increasing the overall depth of the aperture through the partition to nominally 145mm. This aperture was filled with Hilti CP 620 Firestop foam. The following services passed through the seal: a bunch of thirty-six 12mm-diameter electrical cables (with an overall diameter of approximately 70mm), a single 70mm-diameter electrical cable, a 110mm-diameter PVC pipe and a 110mm-diameter steel pipe insulated with 40mm thick foil faced stone mineral wool. A Hilti CP 643 Firestop collar was located around the PVC pipe against the seal on each face.
- Penetration 4 consisted of a 200mm-wide x 180mm-high opening in the plasterboard partition. Two layers of 12.5mm-thick x 200mm-wide Firecheck plasterboard were glued centrally (using Hilti CP 606) around the perimeter of the opening in the partition resulting in a 150mm x 130mm opening which was filled with nominally 200mm-thick Hilti CP 620 Firestop foam. One bunch of sixty-eight 7mm-diameter electrical cables and three 12mm-diameter electrical cables passed centrally through the seal. The cable bunch had an overall diameter of approximately 70mm. The Hilti CP 620 foam extended approximately 25mm away from the surface of the seal along the service at a thickness of approximately 25mm.
- Penetration 5 was identical to penetration 4 except that a single 70mm-diameter electrical cable passed centrally through the seal.
- Penetration 6 consisted of a 200mm-wide x 180mm-high opening in the plasterboard partition. One layer of 12.5mm-thick x 200mm-wide Firecheck plasterboard was glued centrally (using Hilti CP 606) around the perimeter of the opening in the partition resulting in a 150mm x 130mm opening which was filled with nominally 200mm-thick Hilti CP 620 Firestop foam. A single 76mm-diameter copper pipe passed centrally through the seal. The pipe was insulated on both sides of the seal with 30mm-thick foil-faced stone mineral wool.



The penetration seals each satisfied the adopted performance criteria as follows:

Penetration seal ref.	Integrity (min)	Insulation (min)
1	151	151
2	151	149
3	147	63
4	151	128
5	151	137
6	151	151

3.3 CTICM test report 01-V-126

A fire resistance test in accordance with the test method given in Annex IV of the departmental order dated 21 April 1983 from the Ministry of the Interior and its protocol of application approved by CECMI, has been carried out at the CTICM laboratory on 22 March 2001 on services penetration sealing systems installed in a plasterboard partition, for 160 minutes.

The specimen comprised a plasterboard partition, nominally 3000mm x 3000mm, with several pipe penetration sealing systems, as well as several cable penetration sealing systems, but only two are relevant to this assessment report. The 98mm-thick partition comprised a steel framework faced on the each side with two layers of 12.5mm-thick Lafarge Firecheck (type 5) plasterboard.

Penetration sealing system 3-1 comprised a 350mm-wide x 250mm-high opening in the plasterboard partition. One 23mm-thick layer of Firecheck plasterboard used to line this aperture (glued in position using Hilti CP 606), increasing the overall depth of the aperture through the partition to nominally 200mm. This aperture was filled with Hilti CP 620 Firestop foam. A 120mm x 25mm cable tray passed through the seal carrying 30 electrical cables of diameters ranging between 6 and 10mm.

Penetration sealing system 4 comprised a 400mm-wide x 500mm-high opening in the plasterboard partition. One 23mm-thick layer of Firecheck plasterboard used to line this aperture (glued in position using Hilti CP 606), increasing the overall depth of the aperture through the partition to nominally 200mm. This aperture was filled with Hilti CP 620 Firestop foam. The following services passed through the seal: a 120mm x 25mm cable tray carrying 30 electrical cables with diameters ranging between 6 and 10mm, a 110mm-diameter PVC pipe and a 110mm-diameter steel pipe insulated with 30mm thick foil faced stone mineral wool. A Hilti CP 643 Firestop collar was located around the PVC pipe against the seal on each face.

Penetration sealing system 3-1 satisfied the integrity and insulation criteria of the standard for 160 minutes. Penetration sealing system 4 satisfied the integrity and insulation criteria for 136 minutes and 134 minutes respectively.

3.4 WFRC test report WARRES no. 69752

A 150m-thick aerated concrete wall incorporating five plastic pipe penetration seals was subjected to an ad-hoc fire resistance test employing the appropriate procedures and criteria of BS 476: Part 20:1987 on 28 October 1996, for 130 minutes.



The two pipe penetration seals relevant to this report comprised PE pipes passing through apertures in the wall and fitted with a surface mounted CP 643 intumescent collar on each face of the wall. Pipe C measured 49mm diameter x 3mm wall thickness and pipe D measured 63mm diameter x 3.9mm wall thickness. The gaps between the pipe/collars and the wall apertures were filled with mortar.

The penetration seals both satisfied the integrity and insulation of the adopted standard for 130 minutes.

3.5 WFRC test report WARRES no. 69753

A 150m-thick aerated concrete wall incorporating five plastic pipe penetration seals was subjected to an ad-hoc fire resistance test employing the appropriate procedures and criteria of BS 476: Part 20:1987 on 28 October 1996, for 130 minutes.

The pipe penetration seals relevant to this report comprised a PE pipe (110mm outside diameter x 2.7mm pipe wall thickness) and an ABS pipe (110mm outside diameter x 7.2mm pipe wall thickness) passing through apertures in the wall and each fitted with a surface mounted CP 643 intumescent collar on each face of the wall. The gaps between the pipe/collar and the wall aperture were filled with mortar.

The penetration seal satisfied the integrity and insulation of the adopted standard for 135 minutes.

3.6 SP test report no. 97R1 3024 B

A fire resistance test in accordance with SIS 02 48 20, edition 2, dated 1977-07-01 (NT FIRE 005, ISO 834-1975) has been carried out at the SP laboratory in Sweden on 21 November 1997, on services penetration sealing systems and linear gap sealing systems installed in a lightweight concrete block wall, for 126 minutes.

The specimen comprised a 100mm-thick lightweight concrete block wall, 3020mm x 3020mm, with several pipe penetration sealing systems and a number of linear gap seals. The pipe penetration sealing systems relevant to this report are P3 and P9 which each comprised a pipe passing through an aperture in the wall fitted with two surface mounted CP 643 intumescent collars. Seal P3 comprised a PE pipe measuring 50mm diameter x 4.6mm wall thickness and seal P9 comprised a PVC pipe measuring 50mm diameter x 3.2mm wall thickness.

The gap between the pipe/collar and the wall aperture was filled with mortar. The pipe was supported by a steel frame at 270mm from the exposed surface of the wall and at distances of 160mm and 600mm from the unexposed surface of the specimen.

The penetration seal satisfied the integrity and insulation of the standard for 126 minutes.

4 Description of proposals

The proposed constructions are Hilti CP 620 Expanding Fire Seal penetration sealing systems installed around metal pipes, plastic pipes and electrical cables passing through apertures in concrete/masonry walls or drywall partitions. The maximum size apertures in the vertical structures are either 440mm wide x 550mm high or 550mm wide x 440 high. The following options are allowed:

4.1 Supporting structure

The Hilti CP 620 sealing system may be installed in:



- Drywall partitions (minimum thickness 100mm). The apertures in the partitions are boxed out, using metal track and studs as in the tests. The drywall partitions must have at least the required FRP as the penetration seal.
- Concrete/masonry walls (minimum thickness 100mm). Note – masonry wall may have to be thicker to satisfy notional fire resistance requirements of BS 5628: Part 3 Use of Masonry.

4.2 Aperture framing method

- For the 145mm-thick CP 620 seal, the thickness of the supporting partitions/walls can be built up by fixing 75mm wide strips of type 5 plasterboard (screw fixed at max. 100mm centres) around the aperture on each face of the partition/wall.
- For the 145mm-thick and 200mm-thick CP 620 seals, the thickness of supporting partitions/walls can be increased by inserting a plasterboard frame within the aperture. The frame comprises gluing two layers of 12.5mm thick x 145/200mm-wide type 5 plasterboard centrally (using Hilti CP 606) around the perimeter of the opening in the partition/wall.

Note: For framing method (b), where the wall thickness exceeds 120mm, the plasterboard frame maybe offset to one side of the partition/wall within the aperture.

4.3 Penetrating services

The penetrating services should be supported at a maximum distance of 200mm from each face of the supporting construction. The penetrating services should be installed with a minimum separation of 100mm from any other penetrating service and a minimum distance of 50mm from the edge of the seal.

4.3.1 Metal pipes

Copper or steel pipes possibly fitted with foil faced stone mineral wool insulation jackets. The insulation should be extended for 500mm each side of the sealing system. Details of the penetrating metal pipe services and expected performance levels are given below in table 1.

Table 1 Performance of penetration seals incorporating metal pipes

Description of service	Pipe diameter	Pipe wall thickness	Minimum CP 620 seal thickness	Integrity (min)	Insulation (min)
Copper pipe	76mm	2.0mm	145mm	120	-
Copper pipe + 30mm-thick insulation*	76mm	2.0mm	200mm	120	120
Steel pipe	76mm	4.5mm	145mm	120	30
Steel pipe + 40mm-thick insulation*	114mm	5.0mm	145mm	120	120

* - Foil faced stone mineral wool insulation sleeve.

4.3.2 Plastic pipes

PE, ABS or PVC pipes each fitted with a Hilti CP 643 intumescent collar on each face of the seal. The CP 643 collars are fixed together through the CP 620 Expanding Fire Seal using M8 threaded rods.



Details of the penetrating plastic pipe services and expected performance levels are given below in table 2 along with the size of CP 643 collar required.

Table 2 Performance of penetration seals incorporating plastic pipes

Description of service	Pipe outer diameter	Pipe wall thickness	Size of CP 643 collar	Minimum CP 620 seal thickness	Integrity (min)	Insulation (min)
PVC pipe	110mm	3.2 to 3.4mm	110/4"	145mm	120	120
PVC pipe	50mm	3.2mm	50/1.5"	145mm	120	120
PE pipe	110mm	2.7mm	110/4"	200mm	120	120
PE pipe	63mm	3.9mm	63/2"	200mm	120	120
PE pipe	49 to 50mm	3.0 to 4.6mm	50/1.5"	200mm	120	120
ABS pipe	110mm	7.2mm	110/4"	200mm	120	120

4.3.3 Electrical cables

Electric cables, either individual cables or bundles of cables, or steel cable trays, up to 250mm wide x 25mm high, carrying electric cables are covered. The cables may be placed on cable trays. Details of the penetrating electrical cable services and expected performance levels are given below in table 3.

Table 3 Performance of penetration seals incorporating cables and cable trays

Description of service	Service maximum size	Maximum cable diameter	Minimum CP 620 seal thickness	Integrity (min)	Insulation (min)
Single cable	70mm Ø	70mm	145mm	120	120
Cable bundle	70mm Ø	12mm	145mm	120	60
Cable bundle	70mm Ø	7mm	200mm	120	120

4.4 CP 620 Expanding Fire Seal

The CP 620 Expanding Fire Seal should be installed in the aperture around any services, in accordance with the manufacturer's guidelines. An additional bead (25mm x 25mm) of CP 620 should be installed around each service (except plastic pipes), where it penetrates each face of the seal.

5 Assessment

5.1 Comparison of standards

In order to assess the fire resistance of the penetration sealing systems in terms of BS 476: Part 20: 1987, a comparison has been carried out between the procedures, criteria and requirements of the Swedish standard, French standard and BS 476: Part 20: 1987. The following factors have been considered and a comparison is set out as follows:

- Heating regime - The furnace time/temperature curves of the three standards are the same except that the French and Swedish standards start at the ambient temperature in the laboratory at the time of the test and the BS standard assumes an ambient/initial furnace temperature of 20°C. The ambient/initial temperature at the start of CTICM and SP tests were in the range of 15 to 20°C, which is within the acceptable limits.
- Furnace pressure - The French test was run using the pressure conditions specified by the methodology adopted by the UK laboratories based on BS 476: Part 20: 1987. The Swedish wall tests were run using pressure conditions equivalent to those specified in BS 476: Part 22: 1987.
- Integrity - The integrity criteria of the French standard includes a pilot flame test as well as a cotton pad test and flaming on the unexposed face. For tests of this nature, this is a more onerous means of assessing integrity failure, even though no gauges are used to check the formation and sizes of gaps. There was no gap development observed during the CTICM test. The integrity criteria of the Swedish standard include the cotton pad test and flaming on the unexposed face. During the SP test the specimen was also assessed against the gap gauge integrity criteria specified in BS 476: Part 20: 1987. It was stated in the reports that there was no gap development observed during the test that would have constituted an integrity failure under the BS integrity criteria.
- Insulation - The insulation criteria of the French standard are the same as for the British Standard and the thermocouples in the test were located as they would be in a British Standard test. The insulation criteria of the Swedish standard are similar to the British Standard and the thermocouples in both tests were located as they would be in a British Standard test. Both standards have a 180°C temperature rise limit but the Swedish Standard also has a 330°C temperature rise limit for thermocouples located on the surface of pipes and cables.
- Comparison of furnaces - A factor which can produce significant differences in performance in a fire resistance test is the design of the test furnace and the fuel used. However, both the CTICM and BRE/LPC furnaces are gas fired and experience of tests carried out on both furnaces has demonstrated that very similar results are achieved. We are therefore satisfied that the severity of exposure produced by the furnaces is very similar. The SP furnace is oil fired which is generally considered more onerous than gas-fired furnaces.

Therefore, it is our opinion that if the CTICM and SP fire tests on the Hilti penetration sealing systems, as described above, had been carried out in accordance with appropriate procedures and criteria of BS 476: Part 20: 1987 then the fire performance of the sealing systems would have been very similar to that in the French and Swedish tests.

5.2 Supporting structure

The three fire resistance tests listed in sections 3.1 to 3.3 included Hilti CP 620 cable penetration seals installed in plasterboard partitions. The proposals include installing Hilti CP 620 cable penetration seals



in concrete or masonry walls with a minimum thickness equal to the minimum tested partition thickness. Installing a sealing system of this type in a partition is considered the most onerous, as concrete/masonry walls would distort less and give more support to the seal in a fire situation.

5.3 Aperture framing method

The two aperture framing methods were both included in the tests detailed in section 3, and should be equally effective when used in concrete/masonry walls. Penetration seals 1 and 2 in fire test FG 7251 were identical except that the aperture frame in penetration seal 2 was installed flush with the unexposed face of the partition. The two seals gave a similar level of performance when tested, indicating that offsetting the aperture frame does not significantly affect the seal performance.

5.4 Penetrating services

The Hilti CP 620 penetration seals included in the three fire resistance tests listed in sections 3.1 to 3.3, all achieved in excess of 120 minutes against the integrity criteria. The expected insulation ratings given in tables 1 to 3 were achieved in the three tests for each type of penetrating service. The insulation failure on penetration seal A in fire test TE 203650 was related to the steel pipe in the seal, the temperatures recorded on the cable tray and PVC pipe were within the limits for over two hours.

The Hilti CP 643 intumescent collars have been shown in numerous tests (see sections 3.4 to 3.6) to be effective on PVC, ABS and PE pipes for pipe diameters within the ranges specified in table 1. The CP 620 Expanding Fire Seal assists the CP 643 collars to seal the penetration in a fire situation.

The overall fire resistance rating of a particular Hilti CP 620 penetration sealing system, as given in tables 1, 2 or 3, is equal to the lowest fire resistance rating of the individual services penetrating the seal.

6 Conclusion

Therefore it is our opinion that the Hilti CP 620 penetration sealing systems, as described in section 4 of this report, are suitable for integrity and insulation ratings as listed in tables 1 to 3 in accordance with the adopted criteria of BS 476: Part 20: 1987, given the limitations and requirements of this report.

7 Validity of the assessment

7.1 Declaration by applicant

We the undersigned confirm that we have read and complied with the obligations placed on us by the PFPF Guide to Undertaking Assessments in Lieu of Fire Tests.

We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.

We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.



We are not aware of any information that could adversely affect the conclusions of this assessment.

If we subsequently become aware of any such information we agree to cease using the assessment and ask BRE Global to withdraw the assessment.

Signed:

For and on behalf of:

7.2 BRE Global declaration

This assessment was reviewed on 25 January 2018. We have received written confirmation from Hilti Entwicklungsgesellschaft mbH that there have been no changes in the specification of their CP 620 building services penetration sealing systems since the original date of the assessment. There have been no changes in the fire test procedures or methods of assessment, which would adversely affect the fire performance of the systems. We are therefore satisfied that the validity of this assessment may be extended for a further five years.

This assessment is based on test data, experience and the information supplied. If contradictory evidence becomes available to BRE Global the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence over an expressed opinion. The assessment is valid for a period of five years after which it should be returned for review to consider any additional data, which has become available or any changes in the fire test procedures. Any changes in the specification of the product will invalidate this assessment.

This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82. It relates to the fire performance of the product and does not cover aspects of quality, durability, maintenance nor service requirements. This assessment relates only to the specimen(s) assessed and does not by itself infer that the product is approved under any Loss Prevention Certification Board approval or certification scheme or any other endorsements, approval or certification scheme.

Next review date: 30 January 2023

Hilti (Hong Kong) Ltd.
Unit 3 5/F Harbour Centre Tower 2
8 Hok Cheung Street Hung Hom
Kowloon

26 May 1994
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3
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Dear Sirs,

Fire Resisting Penetration Sealing System
As Supplied By Hilti (GB) Ltd.

Thank you for your letters dated 4.3.94 and 27.4.94 and the accompanying test/assessment reports on the above. You are asking for comments on the acceptability of the fire resisting product in the context of relevant provisions of the Buildings Ordinance, Chapter 123 of the Law of Hong Kong and its subsidiary legislation.

Under the Buildings Ordinance, "authorized persons" (i.e. architects, engineers or surveyors registered with the Building Authority) are required to supervise building works including the selection and installation of fire resisting products and to certify compliance with the Buildings Ordinance upon completion of works. Authorized persons are therefore responsible for ensuring the safety requirements inter alia of fire resisting products in the building projects which they have been appointed by the developer to coordinate and supervise.

In establishing the acceptability of fire resisting products, reference may be made to the performance standards laid down in Building (Construction) Regulation 90, the current Code of Practice for Fire Resisting Construction issued by the Building Authority and British Standard 476: Parts 20 to 24. Reliance may also be placed on the test/assessment report prepared by a recognized laboratory or an equivalent establishment.

The Buildings Department has a list of recognized laboratories. This is available for reference at our office :

Technical Administration (Building) Unit
Buildings Department
11/F Murray Building
Garden Road Hong Kong

Before fire resisting products are installed in a building project, the authorized person appointed for the project should be approached for advice and guidance.

Your test/assessment reports are returned herewith. In this respect, please note that paragraph 3 of my letter dated 25 January 1994 is no longer applicable. The delay in replying is regretted.

Yours faithfully,



(Patrick H. Tsui)
Technical Secretary/Building
for Director of Buildings

消防處
防火組
香港九龍尖沙咀東部康莊道1號
消防總部大廈



FIRE SERVICES DEPARTMENT,
FIRE PROTECTION BUREAU,
FIRE SERVICES HEADQUARTERS BUILDING,
No. 1 Hong Chong Road,
Tsim Sha Tsui, East, Kowloon,
Hong Kong.

本處檔號 Our Ref.: FPB 207/0005
來函檔號 Your Ref.: L026/92HK
電訊掛號 Telex: 39607 HKFSD HX } (24 小時 Hours)
圖文傳真 Fax: 852-3110066 }
852-3689744 }
電話 Tel. No.: 733 7596

29 April 1992

Hilti (Hong Kong) Ltd.,
Unit 3, 5/F, Harbour Centre,
Tower 2,
8 Hok Cheung Street,
Hung Hom, Kowloon.

Dear Sirs,

"HILTI" Fire Prevention System

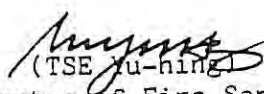
I refer to your letter of 30.3.92 and the enclosures attached thereto.

Based on the information contained in your letter under reference and the given test report, I understand that the captioned product is a building material which should be approved by the Director of Buildings and Lands. As such, I am not in a position to process your application and you are advised to refer your enquiry to the Director of Buildings and Lands, whose address is listed hereunder :-

The Director of Buildings and Lands,
(Attn.: Technical Secretary/Building, B.O.O.)
Murray Building,
Garden Road,
Central,
Hong Kong.

Please feel free to contact us should you have any other question in this matter.

Yours faithfully,


(TSE Yu-hing)
for Director of Fire Services

TYH/jt



ARCHITECTURAL SERVICES DEPARTMENT 建築署

QUEENSWAY GOVERNMENT OFFICES, 66 QUEENSWAY, HONG KONG. 香港金鐘道六十六號金鐘道政府合署
FAX 852-2869 0289

Our Ref : ASD 16/92101/AML/APP
Your Ref. : -----
Tel. No. : 2867 3631
Fax No. : 2877 0594

06 June 1997

Hilti (HK) Ltd
17/F, Tower 6, China HK City,
33 Canton Rd., TST

Dear Sirs,

Architectural Services Department
List of Acceptable Materials
Hilti Firestop Products
Ref. no. 0001P

I am pleased to inform you that approval has been given to include the above product/material in this Department's List of Acceptable Materials. Initially, this listing is for a probationary status and this will be reviewed after the submission of satisfactory performance reports on completion of projects undertaken by this Department where your product has been used.

The Architectural Services Department List of Acceptable Materials is a restricted internal document. This letter should not be used for commercial or marketing purposes and failure to comply with this may result in the removal of the product from the List.

Yours faithfully,

(W.M. TANG)
Technical Secretary/2
for Chief Architect/ Central Management Branch
Architectural Services Department

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.

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

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

To whom it may concern

Date: 22nd 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

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.

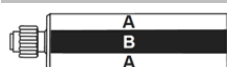
CFS-F SOL; CP 620

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

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

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
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.
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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 ³
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
14.1. UN number			
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)

SDS_UN_Hilti

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

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
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
------------------	---

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 ³
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 ³
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 _{oc})	2.24 (log K _{oc} , 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
14.1. UN number			
Not applicable	Not applicable	Not applicable	Not applicable
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			
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.

