

Test Report No.: 报告号 **244255163a4 002**

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Client: 客户 **Shenyang RenHui fire control technology co., LTD**
沈阳仁辉消防科技有限公司
Contact Information: 联系方式 **NO.2-2 Yongkang Street, Yuhong District, Shenyang, Liaoning**
辽宁省沈阳市于洪区永康街 2-2 号
+86-15542243080
Test item(s): 测试样品 **Concentrated foam fire extinguishing agent**
浓缩型泡沫灭火剂
Identification/ Model No(s): 规格 **S-1-AB (10% A-EX+1.5%B-EX)**
Sample obtaining method: 样品获取方式 **Sending by customer**
客户寄样
Sample Receiving date: 2020-07-23
收件日期
Testing Period: 测试日期 2020-07-27 – 2020-07-31

Test specification: 检测要求**Test result: 结果**

Customer's requirement 客户要求:

1. According to RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU last amended by (EU) 2015/863 根据RoHS (重铸): 电子电气设备中特定有害物质的使用限制, 2011/65/EU附录2及其修正指令 (EU) 2015/863.

Pass 符合

Other Information: 其他信息

Remark: Please be kindly informed that all the content recorded in the captioned report 244255163a1 001 is cancelled and now superseded by 244255163a3 002 & 244255163a4 002.

备注: 请注意, 之前以244255163a1 001作为报告号的报告中的所有内容均已取消, 并由244255163a3 002和244255163a4 002代替之。

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.
莱茵技术(上海)有限公司



2020-08-07

Nicky Chen / Project Manager

Date 日期

Name/Position 姓名/职位

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

样品信息由客户提供。测试结果根据所做测试的种类和范围而得出。

本测试报告仅对来样负责。未经本测试中心许可, 测试报告不得部分复制。不能根据此报告在上述产品或类似产品上使用任何安全标志

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Material list 材料清单:

Item /样品: Concentrated foam fire extinguishing agent
浓缩型泡沫灭火剂
S-1-AB (10% A-EX+1.5%B-EX)

Material No. 材料号	Material 材料	Color 颜色	Location 位置
M001	Liquid 液体	Transparent 透明	Refer to photo 参考照片

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Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

镉, 铅, 汞, 六价铬, 多溴联苯, 多溴二苯醚

Test Method
测试方法:

Total Cadmium, Lead, Mercury, Chromium

- Ref. to IEC 62321-4:2013+AMD1:2017 and IEC 62321-5:2013

Chromium (VI)

- For Metal material - Ref. to IEC 62321-7-1:2015

- For Plastic or Electronic material – Ref. to IEC 62321-7-2:2017

- For Leather material - Ref. to EN ISO 17075-1:2017

PBBs, PBDEs – Ref. to IEC 62321-6:2015

总镉, 铅, 汞, 铬

- 参考 IEC 62321-4:2013+AMD1:2017 和 IEC 62321-5:2013

六价铬

- 金属材料的六价铬含量 - 参考 IEC 62321-7-1:2015

- 塑料或者电子材料的六价铬含量 - 参考 IEC 62321-7-2:2017

- 皮革材料的六价铬含量 - 参考 EN ISO 17075-1:2017

多溴联苯, 多溴二苯醚 - 参考 IEC 62321-6:2015

Test Result
测试结果:

	Cd 镉	Cr(VI) 六价铬	Pb 铅	Hg 汞	PBBs (*) 多溴联苯	PBDEs (*) 多溴二苯醚
Maximum permissible Limit 最大允许限值 (%)	0.01	0.1	0.1	0.1	0.1	0.1

Material No. 材料编号	Results 测试结果(%)					
	Cd 镉	Cr^ 铬^	Pb 铅	Hg 汞	PBBs (*) 多溴联苯	PBDEs (*) 多溴二苯醚
	RL 报告检出限 (%)					
	0.001	0.001	0.001	0.001	0.0005	0.0005
M001	< RL	< RL	< RL	< RL	< RL	< RL

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Abbreviation 简写:	Pb	= Lead
	Cd	= Cadmium
	Hg	= Mercury
	Cr	= Chromium
	Cr (VI)	= Chromium (VI)
	PBBs	= Total Polybrominated Biphenyls
	PBDEs	= Total Polybrominated Diphenyl Ethers
	<	= less than
	RL	= Reporting Limit
	N.A.	= Not Applicable
	^	= The total Chromium have been determined
	%	= percentage

Pb	表示铅
Cd	表示镉
Hg	表示汞
Cr	表示铬
Cr (VI)	表示六价铬
PBBs	表示总多溴联苯
PBDEs	表示总多溴联苯醚
<	表示小于
RL	表示报告检出限
N.A.	表示不适用
^	表示总铬
%	表示百分率

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Remark

备注:

- (*) The reporting limit for each individual PBBs and individual PBDEs are :
 每种多溴联苯和多溴二苯醚的报告检出限如下:

Reporting Limit (%) 报告检出限(%)		
PBBs	Bromobiphenyl 一溴联苯	0.0005
	Dibromobiphenyl 二溴联苯	0.0005
	Tribromobiphenyl 三溴联苯	0.0005
	Tetrabromobiphenyl 四溴联苯	0.0005
	Pentabromobiphenyl 五溴联苯	0.0005
	Hexabromobiphenyl 六溴联苯	0.0005
	Heptabromobiphenyl 七溴联苯	0.0005
	Octabromobiphenyl 八溴联苯	0.0005
	Nonabromobiphenyl 九溴联苯	0.0005
	Decabromobiphenyl 十溴联苯	0.0005
PBDEs	Bromodiphenylether 一溴二苯醚	0.0005
	Dibromodiphenyl ether 二溴二苯醚	0.0005
	Tribromodiphenyl ether 三溴二苯醚	0.0005
	Tetrabromodiphenyl ether 四溴二苯醚	0.0005
	Pentabromodiphenyl ether 五溴二苯醚	0.0005
	Hexabromodiphenyl ether 六溴二苯醚	0.0005
	Heptabromodiphenyl ether 七溴二苯醚	0.0005
	Octabromodiphenyl ether 八溴二苯醚	0.0005
	Nonabromodiphenyl ether 九溴二苯醚	0.0005
	Decabromodiphenyl ether 十溴二苯醚	0.0005

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BBP, DBP, DEHP, DIBP content

Test method 测试方法: IEC 62321-8:2017
Ref. to IEC 62321-8:2017
Organic solvent extraction, analyzed by GCMS

IEC 62321-8:2017
参考 IEC 62321-8:2017
溶剂萃取, 使用气相色谱质谱联用仪 (GC-MS) 分析

Test result 测试结果:

	BBP	DBP	DEHP	DIBP
Maximum permissible Limit (%) 最大允许限值	0.1	0.1	0.1	0.1

Test No. 测试编号	Material No. 材料编号	Results 测试结果(%)			
		BBP	DBP	DEHP	DIBP
		RL 报告检出限 (%)			
		0.005	0.005	0.005	0.005
T001	M001	< RL	< RL	< RL	< RL

Abbreviation 简称:

BBP = Benzylbutyl phthalate
DBP = Dibutyl phthalate
DEHP = Bis(2-ethylhexyl) phthalate
DIBP = Diisobutyl phthalate
< = Less than
RL = Reporting Limit
N.A. = Not Applicable
% = percentage

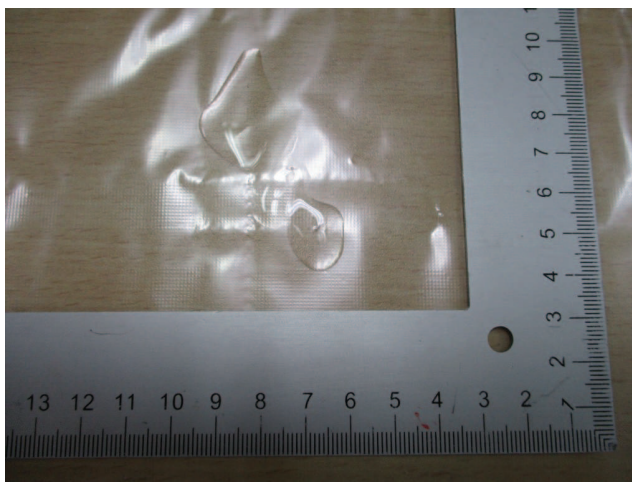
BBP 表示邻苯二甲酸苯基丁酯
DBP 表示邻苯二甲酸二丁酯
DEHP 表示邻苯二甲酸二(2-乙基己基)酯
DIBP 表示邻苯二甲酸二异丁酯
< 表示小于
RL 表示报告检出限
N.A. 表示不适用
% 表示百分率

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Sample photos

样品照片



- END -
-结束-

General Terms and Conditions of Business of TÜV Rheinland in Greater China

1. Scope

- 1.1 These General Terms and Conditions of Business of TÜV Rheinland in Greater China is made between the client and one or more member entities of TÜV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland").
- 1.2 The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract performance.
- 1.3 Any standard terms and conditions of the client of any nature shall not apply and shall hereby be expressly excluded. No standard contractual terms and conditions of the client shall form part of the contract even if TÜV Rheinland does not explicitly object to them.

2. Quotations

Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

3. Coming into effect and duration of contracts

- 3.1 The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such acceptance (including notice sent via electronic means) or by performing the requested services.
- 3.2 The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.
- 3.3 If the contract provides for an extension of the contract term, the contract term will be extended by the term provided for in the contract unless terminated in writing by either party with a six-week notice prior to the end of the contractual term.

4. Scope of services

- 4.1 The scope of the services shall be decided solely by a unanimous declaration issued by both parties. If no such declaration exists, then the written confirmation of order by TÜV Rheinland shall be decisive.
- 4.2 The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.
- 4.3 TÜV Rheinland is entitled to determine, in its sole discretion, the method and nature of the assessment unless otherwise agreed in writing or if mandatory provisions require a specific procedure to be followed.
- 4.4 On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts nor of the installation as a whole and its upstream and/or downstream processes, organisations, used and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations unless these questions are expressly covered by the contract.
- 4.5 In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which the inspections are based, unless otherwise expressly agreed in writing.
5. Performance periods/dates
- 5.1 The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if being confirmed as binding by TÜV Rheinland in writing.
- 5.2 If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.
- 5.3 Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TÜV Rheinland.

6. The client's obligation to cooperate

- 6.1 The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland.
- 6.2 Design documents, supplies, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions.
- 6.3 The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

7. Invoicing of work

- 7.1 If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with the price list of TÜV Rheinland valid at the time of performance.
- 7.2 Unless otherwise agreed, work shall be invoiced according to the progress of the work.
- 7.3 If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds €2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.

8. Payment terms

- 8.1 All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts shall be granted.
- 8.2 Payments shall be made to the bank account of TÜV Rheinland as indicated on the invoice, stating the invoice and customer numbers.
- 8.3 In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short term loan interest rate publicly announced by a reputable commercial bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages.

- 8.4 Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.

- 8.5 The provisions set forth in article 8.4 shall also apply in cases involving returned cheques, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.

- 8.6 Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.

- 8.7 TÜV Rheinland shall be entitled to demand appropriate advance payments.

- 8.8 TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of the notice period.

- 8.9 Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.

9. Acceptance

- 9.1 Any part of the work ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instalment. The client shall be obliged to accept it immediately.
- 9.2 If the client fails to fulfil its acceptance obligation immediately, acceptance shall be deemed to have taken place 4 calendar weeks after completion of the work provided that TÜV Rheinland has specifically made the client aware of the aforementioned deadline upon completion of the work.

10. Confidentiality

- 10.1 For the purpose of these terms and conditions, "confidential information" means all information, documents, images, drawings, know-how, data, samples and project documentation which one party (the "disclosing party") hands over, transfers or otherwise discloses to the other party (the "receiving party"). Confidential information also includes paper copies and electronic copies of such information.
- 10.2 The disclosing party shall mark all confidential information disclosed in written form as confidential before passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall confirm in writing the confidentiality nature of the information within five working days of oral disclosure. Where the disclosing party fails to do so within the stipulated period, the receiving party shall not take any confidentiality obligations hereunder towards such information.
- 10.3 All confidential information which the disclosing party transmits or otherwise discloses to the receiving party during performance of work by TÜV Rheinland:
- a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;
- b) may not be copied, distributed, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass on confidential information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;
- c) must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.
- 10.4 The receiving party may disclose any confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to oblige these employees to observe the same level of secrecy as set forth in this confidentiality clause.
- 10.5 Information for which the receiving party can furnish proof that:
- a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or
- b) it was disclosed to the receiving party by a third party entitled to disclose this information; or
- c) the receiving party already possessed this information prior to disclosure by the disclosing party; or
- d) the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.
- 10.6 All confidential information shall remain the property of the disclosing party. The receiving party hereby agrees to immediately (i) return all confidential information, including all copies, to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information, including all copies, and confirm the destruction of this confidential information to the disclosing party in writing, at any time if so requested by the disclosing party but at the latest and without special request after termination or expiry of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain with the client. However, TÜV Rheinland is entitled to make file copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in order to evidence the correctness of its results and for general documentation purposes required by laws, regulations and the requirements of working procedures of TÜV Rheinland.
- 10.7 From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict secrecy of all confidential information and shall not disclose this information to any third parties or use it for itself.

11. Copyrights

- 11.1 TÜV Rheinland shall retain all exclusive copyrights in the expert reports, test results, calculations, presentations etc. prepared by TÜV Rheinland.
- 11.2 The client may only use such expert reports, test results, calculations, presentations etc. prepared within the scope of the contract for the contractually agreed purpose.
- 11.3 The client may use test reports, test results, expert reports, etc. only complete and unshortened. Any publication or duplication for advertising purposes needs the prior written approval of TÜV Rheinland.

12. Liability of TÜV Rheinland

- 12.1 Irrespective of the legal basis, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to: (i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged on a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times of the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency.
- 12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TÜV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.
- 12.3 In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" is breach of a material contractual obligation, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseen as a possible consequence of such breach of contract at the time of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.2 applies.
- 12.4 TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the performance of its services under the contract, unless such personnel made available is regarded as vicarious agent of TÜV Rheinland. If TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision, the client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.
- 12.5 The limitation periods for claims for damages shall be based on statutory provisions.
- 12.6 None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client.
13. Partial invalidity, written form, place of jurisdiction and dispute resolution
- 13.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 13.1.
- 13.2 Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.
- 13.3 Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:
- a) if TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.
- b) if TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.
- c) if TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.
- 13.4 Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled friendly through negotiations.
- Unless otherwise stipulated in the contract, if no settlement or no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted:
- a) in the case of TÜV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled by arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party.
- b) in the case of TÜV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association Taipei Branch to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take place in Taipei.
- c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these rules. The arbitration shall take place in Hong Kong.

The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.