



# Verification Report

No. SH8184744/CHEM

Date: Dec. 31, 2008

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**Applicant** : Ningbo Victor Electric Co., Ltd

**Address** : Zhengxin West Road, Southern District of Yuyao Economic Development Zone

**Sample Name** : Thermostat

**SGS Ref** : 11479727

**Main Model** : V7AM+PTC

**Other Model** : V7AM, VA1, VAA1, VC2

**Verification Period** : Dec.12, 2008 to Dec.31, 2008

**Verification Requested** : With reference to RoHS Directive 2002/95/EC, and its amendment directives

**Verification Method**

1. Review was performed for the samples disjointed from the submitted articles and the related test reports submitted by the Applicant
2. Tests was performed for the samples indicated by the photos in the report with test methods reference to IEC 62321/2<sup>nd</sup>CDV (111/95/CDV): Procedures for the Determination of Levels of Six Regulated Substances in Electrotechnical Products
  - (1) Screening by XRF Spectroscopy
  - (2) Wet Chemical Test Method
    - a. Determination of Lead & Cadmium by ICP or AAS
    - b. Determination of Mercury by ICP
    - c. Determination of Hexavalent Chromium by Spot test or Colorimetric Method
    - d. Determination of PBBs and PBDEs by GC/MS

**Verification Conclusion** : Based on the review of previous reports and verification results of the submitted samples, the results comply with the RoHS Directive 2002/95/EC and its subsequent amendments.

**Note** : The test results are related only to the tested items. The report shall not be reproduced except in full without the written approval of the testing laboratory.

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory

Sandy Hao  
Lab Manager

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SNCHEM 2300957

**Details on Verification:**

Part No.	Part Description	Restricted Substances	Results of EDXRF <sup>(1)</sup>	Result of Wet Chemical Testing <sup>(2)</sup> (mg/kg)	No. of Related Test Report	Results in Related Test Report (mg/kg)	Conclusion on RoHS	Sample Submitted / Resubmitted Date
1	V7AM+PTC-Silvery metal (soleplate)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
2-C	V7AM+PTC-Silvery metal (silver-piece)	Cd	OL▲	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
3	V7AM+PTC-White paper (gasket)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	BL	---		\	Comply	
		PBDEs	---	---		\	Comply	
4	V7AM+PTC-Silvery metal (iron nail)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
5	V7AM+PTC-Grey metal (bimetallic piece)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	IN	Negative		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
6-C	V7AM+PTC-Silvery metal (silver-point)	Cd	OL▲	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
7-C	V7AM+PTC-Silvery solid PTC	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	OL▲	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	BL	---		\	Comply	
		PBBs	BL	---		\	Comply	
		PBDEs	---	---		\	Comply	
8	V7AM+PTC-Silvery metal (stretch nip)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>VI</sup>	IN	Negative		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	

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Part No.	Part Description	Restricted Substances	Results of EDXRF <sup>(1)</sup>	Result of Wet Chemical Testing <sup>(2)</sup> (mg/kg)	No. of Related Test Report	Results in Related Test Report (mg/kg)	Conclusion on RoHS	Sample Submitted / Resubmitted Date
9	V7AM+PTC-Transparent plastic (insulation sleeve)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	BL	---		---	Comply	
		PBDEs	BL	---		---	Comply	
10	V7AM+PTC-Black plastic (jacket) (leads)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	BL	---		---	Comply	
		PBDEs	BL	---		---	Comply	
11	V7AM+PTC-Silvery metal (core) (leads)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	---	---		---	Comply	
		PBDEs	---	---		---	Comply	
12	V7AM-Black plastic (jacket) (leads)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	---	---		---	Comply	
		PBDEs	BL	---		---	Comply	
13	VAA1-Golden metal (silver-point)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	---	---		---	Comply	
		PBDEs	---	---		---	Comply	
14	VAA1-Grey metal (bimetallic piece)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	---	---		---	Comply	
		PBDEs	---	---		---	Comply	
15	VAA1-White plastic (jacket) (leads)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	BL	---		---	Comply	
		PBDEs	---	---		---	Comply	
16	VA1-White plastic (jacket) (leads)	Cd	BL	---	1	---	Comply	Dec.12, 2008
		Pb	BL	---		---	Comply	
		Hg	BL	---		---	Comply	
		Cr <sup>6+</sup>	BL	---		---	Comply	
		PBBs	---	---		---	Comply	
		PBDEs	BL	---		---	Comply	

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Part No.	Part Description	Restricted Substances	Results of EDXRF <sup>(1)</sup>	Result of Wet Chemical Testing <sup>(2)</sup> (mg/kg)	No. of Related Test Report	Results in Related Test Report (mg/kg)	Conclusion on RoHS	Sample Submitted / Resubmitted Date
17	VC2-Silvery metal (case)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
18	VC2-White ceramic (block)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	Comply	
		PBDEs	BL	---		\	Comply	
19	VC2-Copper-colored metal (silver-piece)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
20	VC2-Grey metal (bimetallic piece)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
21	VC2-Silvery metal (silver-point)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	
22	VC2-Silver-gray metal (metal bar)	Cd	BL	---	\	\	Comply	Dec.12, 2008
		Pb	BL	---		\	Comply	
		Hg	BL	---		\	Comply	
		Cr <sup>6+</sup>	BL	---		\	Comply	
		PBBs	---	---		\	\	
		PBDEs	---	---		\	\	

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## Remark

- (1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr<sup>6+</sup>.
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr<sup>6+</sup>) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321/2<sup>nd</sup>CDV (111/95/CDV) (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL $\leq(70-3\sigma) < X < (130+3\sigma) \leq OL$	BL $\leq(70-3\sigma) < X < (130+3\sigma) \leq OL$	LOD $< X < (150+3\sigma) \leq OL$
Pb	BL $\leq(700-3\sigma) < X < (1300+3\sigma) \leq OL$	BL $\leq(700-3\sigma) < X < (1300+3\sigma) \leq OL$	BL $\leq(500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	BL $\leq(700-3\sigma) < X < (1300+3\sigma) \leq OL$	BL $\leq(700-3\sigma) < X < (1300+3\sigma) \leq OL$	BL $\leq(500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	BL $\leq(300-3\sigma) < X$	--	BL $\leq(250-3\sigma) < X$
Cr	BL $\leq(700-3\sigma) < X$	BL $\leq(700-3\sigma) < X$	BL $\leq(500-3\sigma) < X$

- (c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not Regulated.
- (d) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- (e) ▲ As declared by the client, the materials fall into exemption items according to EU directive 2002/95/EC (RoHS) and its subsequent amendments.
- (2) (a) mg/kg = ppm = 0.0001%, ND = Not Detected (<MDL), --- = Not Conducted.
- (b) Unit and Method Detection Limit (MDL) in wet chemical test

Test Items	Pb	Cd	Hg
Units	mg/kg	mg/kg	mg/kg
MDL	2	2	2

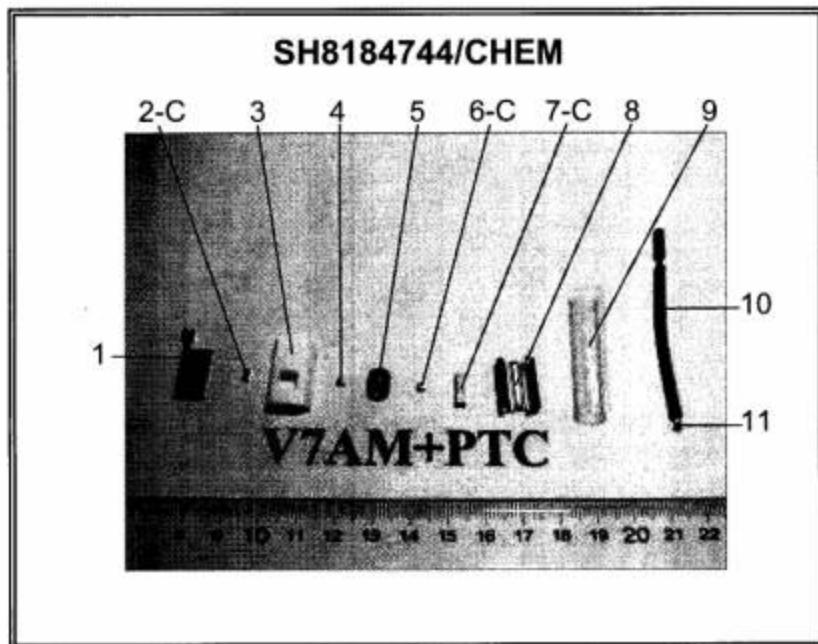
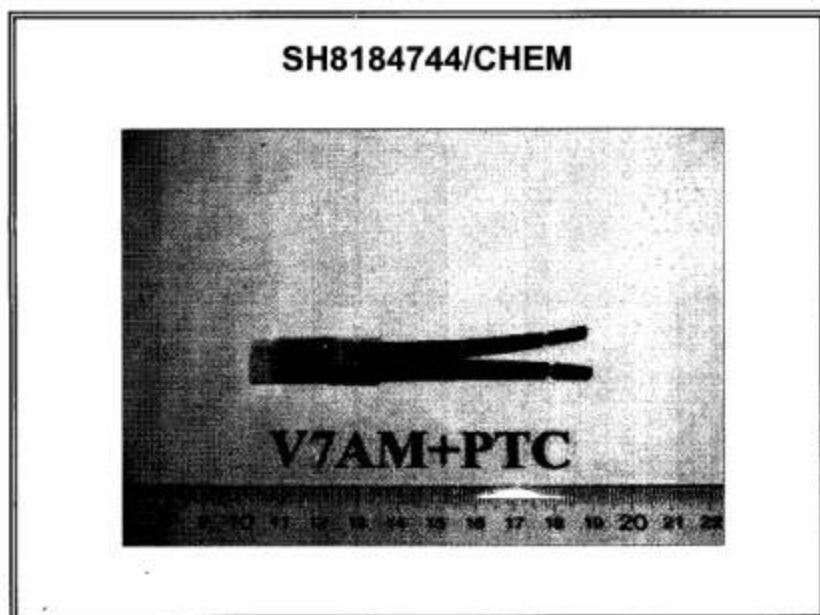
The MDL for single compound of PBBs & PBDEs is 5 mg/kg and MDL of Cr<sup>6+</sup> for polymer & composite sample is 2 mg/kg.

- (c) According to IEC 62321/2<sup>nd</sup>CDV (111/95/CDV), result on Cr<sup>6+</sup> for metal sample is shown as Positive/Negative. Negative = Absence of Cr<sup>6+</sup> coating, Positive = Presence of Cr<sup>6+</sup> coating.
- (d) The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE will be included in the sum of PBDE after 01.07.2008.

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## Photo Index



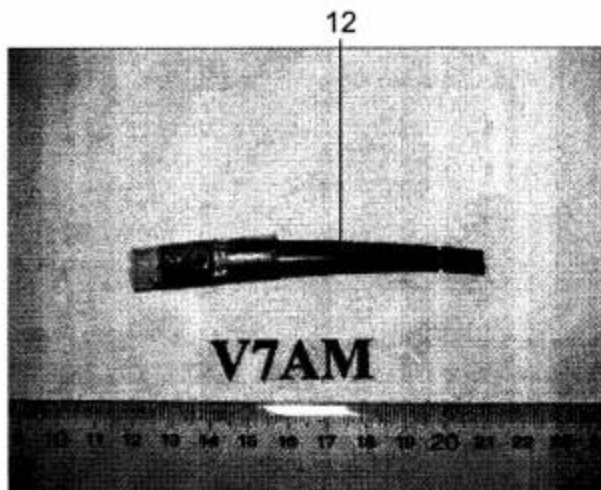
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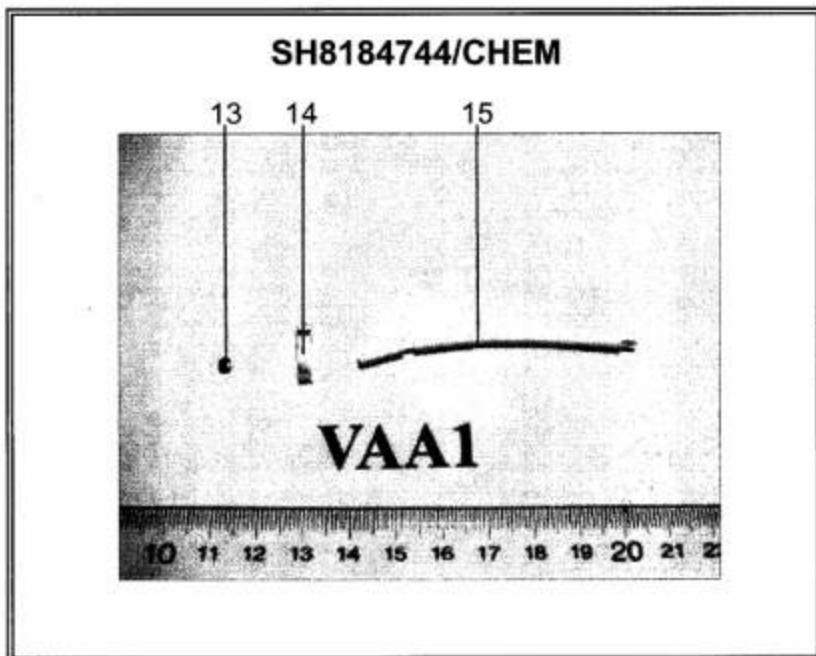
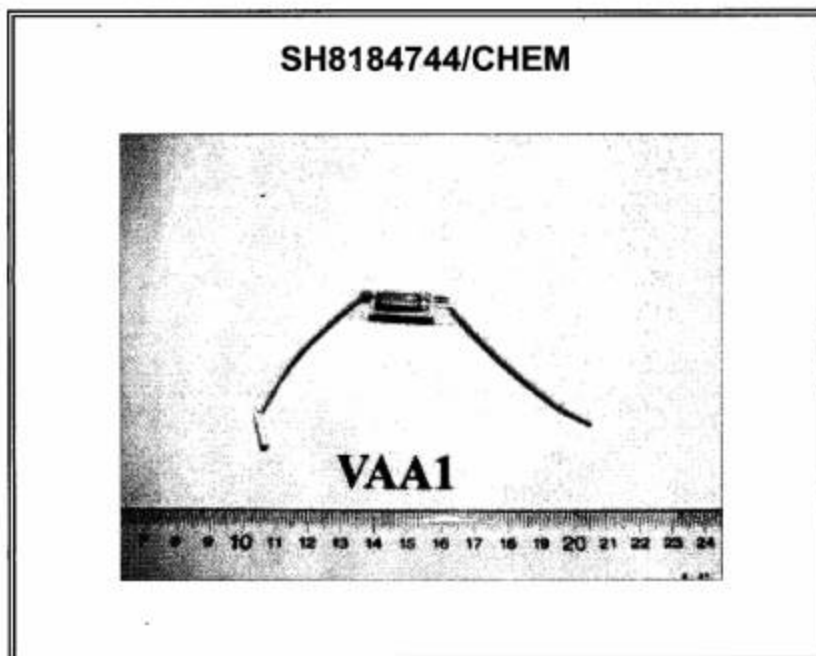


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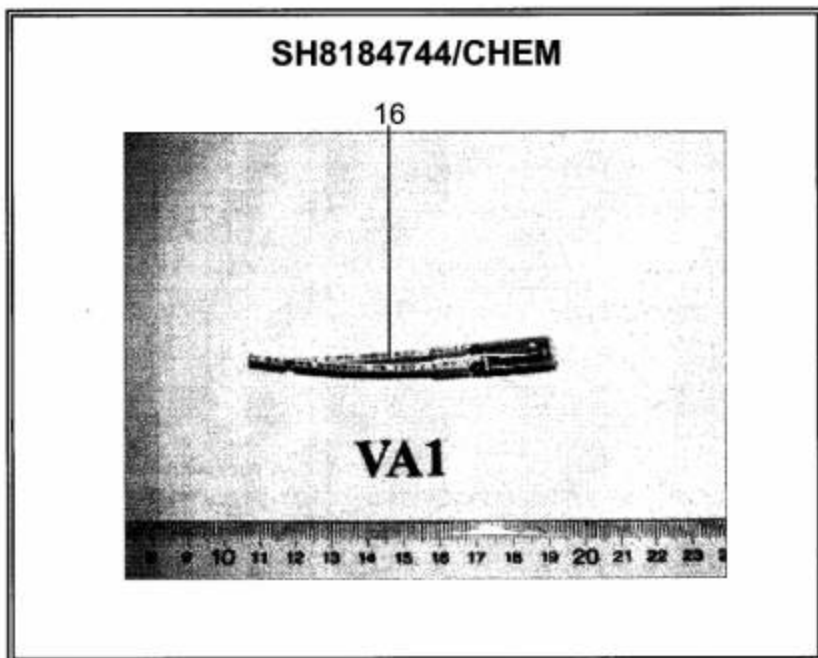
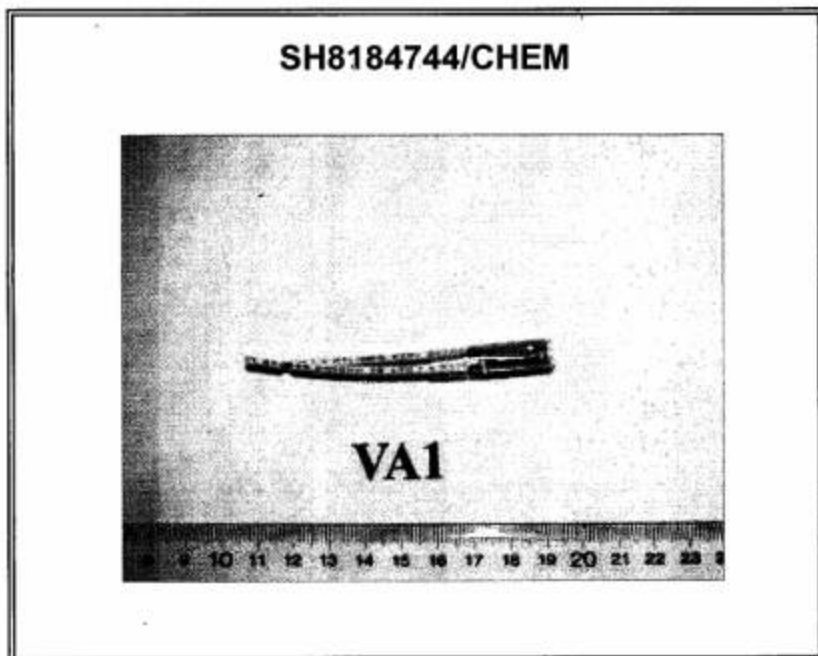
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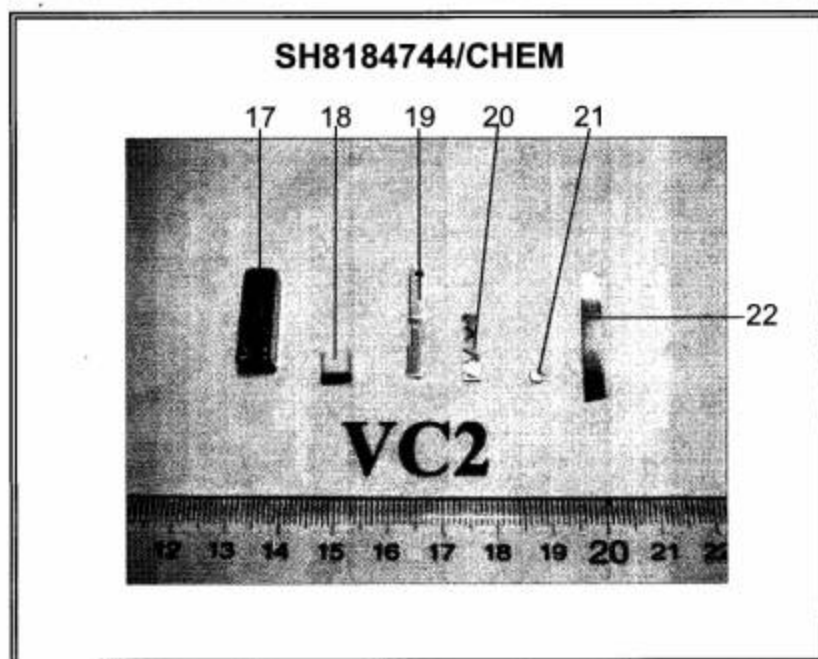
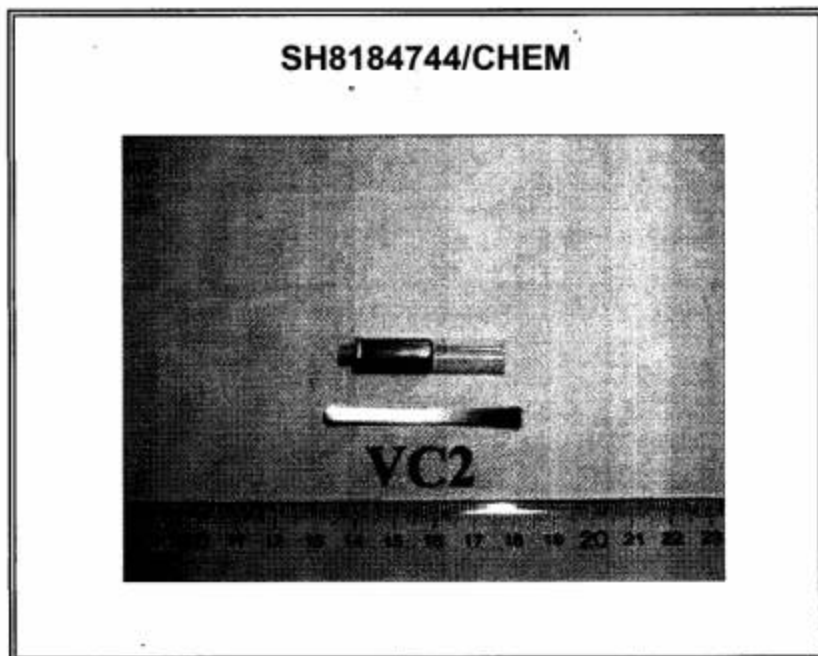
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