

## Test Report

No. : CR/2009/50165    Date : 2009/05/19    Page : 1 of 6

SIRECTIFIER GLOBAL CORPORATION, DELAWARE, U. S. A.  
113 BARKSDALE PROFESSIONAL CENTER IN THE CITY OF NEWARK,  
COUNTY OF NEW CASTLE



The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : SCHOTTKY, FRED, TVS, ZENER, SWITCHING DIODE,  
REGULATOR, MOSFET  
Style/Item No. : MBR, SBL, MUR, SB, MR, TL SERIALS, TO-92, TO-126,  
TO-220, ITO-220, TO-247, TO-3P, DO-41, 15, 27,..ETC  
DIP PACKAGE  
Sample Receiving Date : 2009/05/12  
Testing Period : 2009/05/12 TO 2009/05/19

=====  
Test Result(s) : Please refer to next page(s).

**Chenyu Kung / Operation Manager**  
**Signed for and on behalf of**  
**SGS TAIWAN LTD.**  
**Chemical Laboratory – Taipei**

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## Test Result(s)

PART NAME NO.1 : MIXED BLACK EPOXY, SILVER COLORED METAL SHEET AND PIN

Test Item (s):	Unit	Method	MDL	Result
				No.1
Anthracene (CAS No.: 000120-12-7)	mg/kg	With reference to ZEK 01.2-08. Analyzed by GC/MS.	0.2	n.d.
4,4' - Diaminodiphenylmethane (CAS No.: 000101-77-9)	mg/kg	With reference to EN 14362-1: 2003. Analyzed by GC/MS.	3	n.d.
DBP (Dibutyl phthalate) (CAS No.: 000084-74-2)	%	With reference to EN 14372: 2004. Analysis was performed by GC/MS.	0.003	n.d.
BBP (Benzyl butyl phthalate) (CAS No.: 000085-68-7)	%	With reference to EN 14372: 2004. Analysis was performed by GC/MS.	0.003	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 000117-81- 7)	%	With reference to EN 14372: 2004. Analysis was performed by GC/MS.	0.003	n.d.
5-tert-butyl-2,4,6-trinitro- m-xylene (Musk Xylene) (CAS No.: 000081-15-2)	mg/kg	With reference to US EPA 3550C: 1996. Analyzed by GC/MS.	10	n.d.
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD) (CAS No.: 025637-99-4 and 003194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	With reference to US EPA 3540C: 1996. Analyzed by GC/MS.	5	n.d.
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 085535-84-8)	mg/kg	With reference to US EPA 3540C: 1996. Analyzed by GC/MS.	100	n.d.
Cobalt dichloride (CAS No.: 007646-79-9)	mg/kg	SGS In-House method-RSTS- EE-SVHC-002. Analyzed by ICP-AES.	5	n.d.
Arsenic (As)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.	2	n.d.
Diarsenic pentaoxide*** (CAS No.: 001303-28-2)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.***	-	n.d.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Diarsenic trioxide*** (CAS No.: 001327-53-3)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.***	-	n.d.
Triethyl arsenate*** (CAS No.: 015606-95-8)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.***	-	n.d.
Lead (Pb)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.	2	13
Lead hydrogen arsenate*** (CAS No.: 007784-40-9)	mg/kg	With reference to US EPA 3052: 1996. Analyzed by ICP-AES.***	-	n.d.
Tributyl Tin (TBT) (CAS No.: 000688-73-3)	mg/kg	With reference to BS ISO 17353: 2004. Analyzed by GC/FPD.	0.03	n.d.
Bis(tributyltin)oxide*** (CAS No.: 000056-35-9)	mg/kg	With reference to BS ISO 17353: 2004. Analyzed by GC/FPD.***	-	n.d.
Hexavalent Chromium Cr(VI)	mg/kg	With reference to US EPA 3060A: 1996. Analyzed by UV-Vis.	2	n.d.
Sodium dichromate*** (CAS No.: 010588-01-9(*))	mg/kg	With reference to US EPA 3060A: 1996. Analyzed by UV-Vis.***	-	n.d.
Cyclododecane (CAS No.: 000294-62-2)	mg/kg	With reference to US EPA 5021. Analyzed by GC/MS.	5	n.d.

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**Note :**

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. MDL = Method Detection Limit
3. n.d.= not detected = below Method detection Limit
4. " - " = Not Regulated
5. \*\*\*: The substance was calculated by the test results of Tributyl Tin, Triphenyl Tin or element (Ex. Antimony 、Beryllium 、Silicon 、Zinc or Phosphorus respectively). The MDL is evaluated for Tributyl Tin, Triphenyl Tin or element (Ex. Antimony 、Beryllium 、Silicon 、Zinc or Phosphorus respectively.)

$$AX = A \times F$$

AX	A	F
Diarsenic pentaoxide	Arsenic	1.5339
Diarsenic trioxide		1.3203
Triethyl arsenate		3.0179
Lead hydrogen arsenate		4.6332
	Lead	1.6753
Sodium dichromate	Hexavalent Chromium Cr(VI)	2.5192
Bis(tributyltin)oxide	Tributyl Tin (TBT)	1.0276

Regarding lead hydrogen arsenate lead and arsenic are tested and used for the calculation of the separated concentration of lead hydrogen arsenate. The final concentration of lead hydrogen arsenate for the report uses the minimum value of above-mentioned two concentration of lead hydrogen arsenate.

6. (\*) : conc. of Sodium dichromate dihydrate (CAS No.: 007789-12-0) = conc. of sodium dichromate ×
7. The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing.  
 The above result(s) was/were only given as the informality value.

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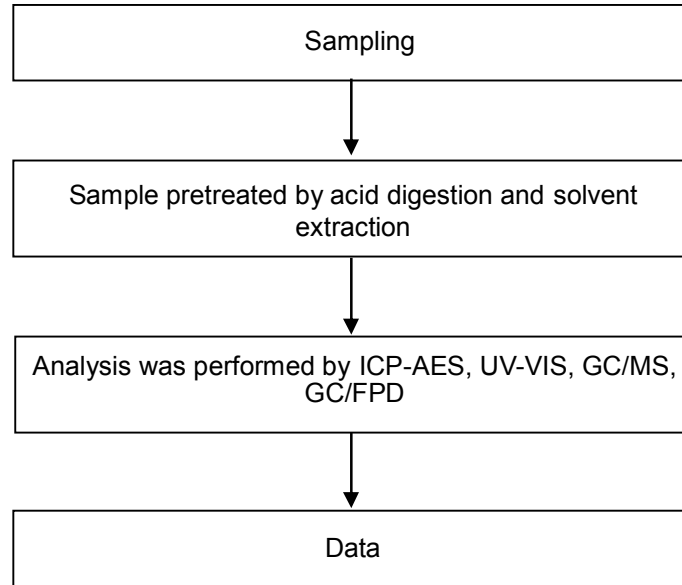
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### Analytical flow chart



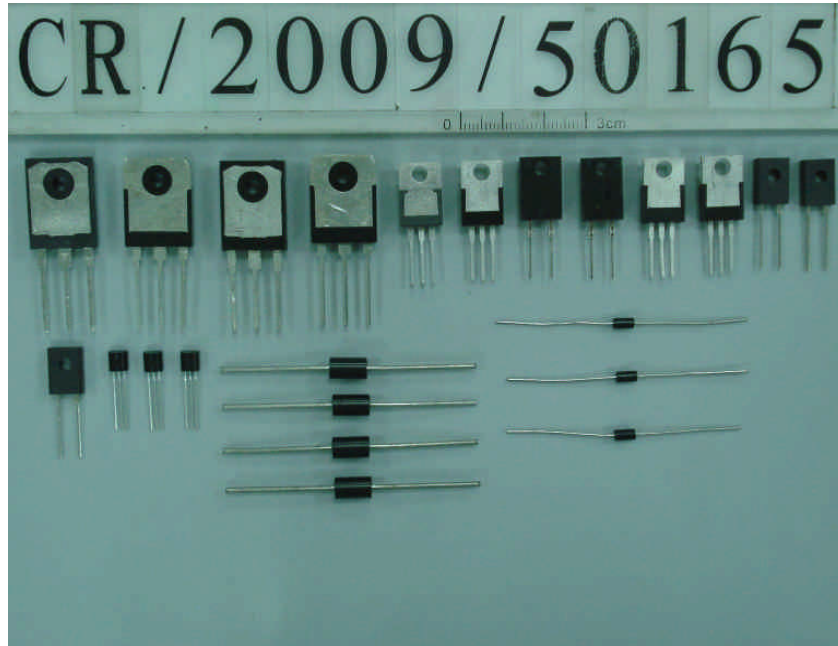
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\*\* End of Report \*\*

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