



Technical Report No: 48.400.09.7645.00

Date: Dec. 10, 2009

SVHC Assessment Report

Client: Shanghai Acrel Co., Ltd.
No.253, Yulv RD, Jiading District, Shanghai, P.R.China

Contact Person: Mr. Shoubao LIU

Sample Description: Name: Programmable intelligent meter
Model: PZ96-AV3

Sample provided by: Shanghai Acrel Co., Ltd.

Date of sample Received: Dec. 03, 2009

Date to tests started: Dec. 03, 2009

Purpose of Evaluation:

1. Screening of 15 Substances of Very High Concern(SVHC)published by European Chemicals Agency (ECHA) on 2008 Oct28 based on regulation (EC) No 1907/2006 (REACH).
2. Assessment on the SVHC concentration of the submitted article.

Test method: Analysis based on LCMS, GCMS. Headspace-GCMS, ICPOES/AAS, UV-VIS and XRF.

Evaluation results : Refer to next pages

Conclusion : Concentration of each SVHC is less than 0.1% weight by weight(w/w) in the submitted sample. **PASS**

Remark: 1. The result relates only to the items tested.
2. Samples are tested as received

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1. Description of the Evaluated Product

1.1 Picture of the Article



1.2 Product Parameter

Model: PZ96-AV3

Weight: 329.9g

2. Conformity Evaluation

Item	Component Description	Material	Weight Percent (%)	SVHC Risk Assessment
1	Enclosure	Plastic	31.37	High
2	Transparent lid	Plastic	10.00	High
3	Label on product	Plastic	0.515	High
4	PCB board	Plastic, metal	15.76	High
5	Green plug & socket	Plastic, metal	4.06	High
6	Black plastic socket	Plastic, metal	5.06	High
7	Blue electric component	Plastic, polymer resin	5.85	High
8	Digital display	Polymer resin	3.88	High
9	Electric component	Plastic, polymer, metal	6.97	High
10	Green& black inductance	Magnetic, copper	9.00	Low
11	Screw, fixing bar	Metal	7.25	Low

3. Test Data:

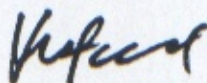
Test Item(s)	CAS No.	MDL (%)	Test Result(s) (%)	Classification
Anthracene	120-12-7	0.005	<0.1	PBT
4,4'-Diaminodiphenylmethane	101-77-9	0.005	<0.1	Carcinogen Category2
Cobalt dichloride**	7646-79-9	0.01	<0.1	Carcinogen Category2
Diarsenic pentaoxide**	1303-28-2	0.01	<0.1	Carcinogen Category1
Diarsenic trioxide**	1327-53-3	0.01	<0.1	Carcinogen Category1
Lead hydrogen arsenate**	7784-40-9	0.01	<0.1	Carcinogen Category 1; Toxic to Reproduction Category1
Triethyl arsenate**	15606-95-8	0.01	<0.1	Carcinogen Category 1
5-tert-butyl-2,4,6-trinitro-m-xylene	81-15-2	0.005	<0.1	vPvB
Bis (2-ethyl(hexyl)phthalate)	117-81-7	0.005	<0.1	Toxic to Reproduction Category2
Dibutyl Phthalate (DBP)	84-74-2	0.002	<0.1	Toxic to Reproduction Category2
Hexabromocyclododecane	25637-99-4	0.002	<0.1	PBT
Alkanes, C10-13, chloro	85535-84-8	0.005	<0.1	PBT
Benzyl butyl phthalate	85-68-7	0.005	<0.1	Toxic to Reproduction Category2
Bis(tributyltin)oxide**	56-35-9	0.005	<0.1	PBT
Sodium dichromate**	7789-12-0	0.01	<0.1	Carcinogen Category2; Mutagen Category2; Toxic to Reproduction Category2

Remark:

1. MDL= Method Detection Limit.
2. ** Calculated concentration of cobalt dichloride is based on the identified heavy metal and anion result; calculated concentration of diarsenic pentaoxide, diarsenic trioxide, sodium dichromate, lead hydrogen arsenate and triethyl arsenate are based on the identified heavy metal result. Relevant result has to be further confirmed if identity of above metal substances presents in the article. Concentration of bis(tributyltin)oxide (TBTO) is reported as tributyltin (TBT). The result is a screening test of TBT which can cover TBTO and other salts under applied technologies. Further investigation is needed to have exact amount of TBTO.
3. Definition of classification is listed in Appendix A of this report in accordance with 67/548/EEC and Regulation (EC) No 1907/2006.
4. The analysis of 15 SVHC is done by currently available test & screening techniques against the SVHC candidate list published by European Chemical Agency (ECHA).
Refer to http://echa.europa.eu/chem_data/candidate_list_table_en.asp for details.
5. In accordance with Regulation(EC) No 1907/2006, any producer or importer of substances, preparations and articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1), if both the following conditions are met:
 - (a) The substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year;
 - (b) The substance is present in those articles above a concentration of 0.1% weight by weight (w/w).
6. From 28 October 2008, EU & EEA suppliers whose goods contain substances on the Candidate List in a concentration above 0.1%(w/w) must provide sufficient information to their customers and on request to a consumer within 45 days of the receipt of this request. This information must ensure safe use of the article and, as a minimum, include the name of the substance.
7. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.


TÜV SÜD Product Service GmbH

Project Engineer:



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Section Manager:



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APPENDIX I

Classification	Definition under 67/548/EEC and Regulation (EC) No 1907/2006
Carcinogen category 1	Substances known to be carcinogenic to humans. There is sufficient evidence to establish a causal association between human exposure to the substance and the development of cancer.
Carcinogen category 2	Substances that should be regarded as if they are carcinogenic to humans, there is sufficient evidence, based on long-term animal studies and other relevant information, to provide a strong presumption that human exposure may result in the development of cancer.
Mutagen category 1	Substances known to be mutagenic to humans, There is sufficient evidence to establish a causal association between human exposure to a substance and heritable genetic damage.
Mutagen category 2	Substances which should be regarded as if they are mutagenic to man. There is sufficient evidence to provided a strong presumption that human exposure to the substance may result in the development of heritable genetic damage, generally on the basis of : -appropriate animal studies, -other relevant information.
Toxic to Reproduction category 1:	Substances known to impair fertility in humans. There is sufficient evidence to establish a causal relationship between human exposure to the substance and impaired fertility. Substances known to cause developmental toxicity in humans. There is sufficient evidence to establish a causal relationship between human exposure to the substance and subsequent developmental toxic effects in the progeny

<p>Toxic to Reproduction category 2:</p>	<p>Substances which should be regarded as if they impair fertility in humans. There is sufficient evidence to provide a strong presumption that human exposure to the substance may result in impaired fertility on the basis of :</p> <ul style="list-style-type: none"> -clear evidence in animal studies of impaired fertility in the absence of toxic effects, or, evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary nonspecific consequence of the other . -other relevant information. <p>Substances which should be regarded as if they cause developmental toxicity to humans. There is sufficient evidence to provide a strong presumption that human exposure to the substance may result in developmental toxicity, generally on the basis of :</p> <ul style="list-style-type: none"> -clear results in appropriate animal studies where effects have been observed in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of the other toxic effects. -other relevant information.
<p>PBT & vPvB</p>	<p>Substances which are persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative(vPvB) pose a particular challenge to the chemicals safety management. For these substances a "safe" concentration in the environment cannot be established with sufficient reliability.</p>