



## Test Report

No. 2048646/GT

Date : Jun 03 2009

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INNOVAX MANUFACTURING COMPANY  
RM 715, BLK B, ALEXANDRA IND BLDG.,  
23-27 WING HONG ST.,  
LAI CHI KOK, KLN,  
HONG KONG

The following sample was submitted by the client as:

One set sample of metal fasteners (buttons) in gold.

SGS Job No. : 3072625

Product Name : Metal fasteners (Buttons)

End Use : Garment Accessories

Manufacturer : Innovax Manufacturing Company

Country of Origin : China

Country of Destination : European countries

Sample Receiving Date : May 22, 2009

Testing Period : May 22-Jun 02, 2009

Test Requested : Semi-quantitative testing of fifteen (15) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on October 28, 2008 regarding Regulation (EC) No 1907/2006 concerning the REACH, with consideration of the latest amendment of 67/548/EEC (31<sup>th</sup> Adaption to Technical progress) on December 16, 2008.

Test result : Please refer to next page(s).

Test Summary : According to the specified scope and analytical techniques, all 15 SVHC are found as below reporting limit in the tested sample.

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- Note :
- (A) Test results in this report are based on the tested sample. These results cannot be made reference to the contents of any individual finished article.
  - (B) Please notice that the identified SVHC substance(s) is based on the calculation from the result of selected ions. The concentration that identified is based on the worst case scenario. Further investigation is required for confirmation of the presence of SVHC substance(s).
  - (C) Client may have legal obligations resulting from the inclusion of SVHC in the product. These obligations are linked to the listed SVHC on their own, in preparations and in articles. Please see **Appendix B** for detail.
  - (D) Composite testing is conducted as per client's request. It is highly recommended to identify the component(s) which contains the SVHC and its exact concentration by individual testing.

Signed for and on behalf of  
SGS Hong Kong Ltd.

Wong Yiu Man, Vincent  
Account Manager

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Test Sample:

Sample Description: Golden metal fasteners

Group No.	Component No.	Component Description
A	1.	Gold metal ring top
A	2.	Gold metal post
A	3.	Gold metal mesh
A	4.	Gold metal ring

Sample Photo

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Test Results:

Test method: SGS in-house method (extraction by organic solvent analysis by GC-MS and GC-ECD)

Substance Name	CAS number	EC number	Amount of substance per test group (%)	Reporting Limit (%)	Classification 2
			A		
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	ND	0.005	PBT
Anthracene	120-12-7	204-371-1	ND	0.005	PBT
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	ND	0.005	Toxic to Reproduction Category 2
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	ND	0.005	Toxic to Reproduction Category 2
4,4'-Diaminodiphenylmethane	101-77-9	202-974-4	ND	0.005	Carcinogen Category 2
Dibutyl phthalate (DBP)	84-74-2	201-557-4	ND	0.005	Toxic to Reproduction Category 2
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD)	25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	247-148-4 and 221-695-9	ND	0.005	PBT
5-tert-butyl-2,4,6-trinitrom-xylene (musk xylene)	81-15-2	201-329-4	ND	0.005	vPvB

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Test method: SGS in-house method (Acid digestion, analysis by ICP-OES and/or ICP-MS)

Substance Name	CAS number	EC number	Amount of element(s)/ ion(s) per test group (%)	Calculated amount of substance per test group (%)	Reporting Limit (%) <sup>^</sup>	Classification <sup>2</sup>
<b>A</b>						
Bis(tributyltin)oxide* (TBTO) (C <sub>24</sub> H <sub>54</sub> OSn <sub>2</sub> )	56-35-9	200-268-0	Sn: 0.0153	ND	0.005	PBT
Cobalt dichloride* (CoCl <sub>2</sub> )	7646-79-9	231-589-4	Co: ND Cl: ND	ND	0.005	Carcinogen Category 2
Diarsenic pentaoxide* (As <sub>2</sub> O <sub>5</sub> )	1303-28-2	215-116-9	As: ND	ND	0.005	Carcinogen Category 1
Diarsenic trioxide* (As <sub>2</sub> O <sub>3</sub> )	1327-53-3	215-481-4	As: ND	ND	0.005	Carcinogen Category 1
Lead hydrogen arsenate* (PbHAsO <sub>4</sub> )	7784-40-9	232-064-2	Pb: ND As: ND	ND	0.005	Carcinogen Category 1; Toxic to Reproduction Category 1
Sodium dichromate** (Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> )	10588-01-9	234-190-3	Na: 0.0192 Cr: ND	ND	0.005	Carcinogen Category 2; Mutagen Category 2; Toxic to Reproduction Category 2
Triethyl arsenate* (AsO(C <sub>2</sub> H <sub>5</sub> O) <sub>3</sub> )	15606-95-8	427-700-2	As: ND	ND	0.005	Carcinogen Category 1

**Notes:**

1. By test result of corresponding element(s) and/or ion(s), the presence of this substance with concentration more than 0.1% can be excluded.
2. The test result of TBTO is confirmed by TLC chromatogram (please refer to remark 3).

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### Remarks:

1. The chemical analysis of 15 SVHC candidates for authorization published by ECHA on October 28, 2008 ([http://echa.europa.eu/chem\\_data/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/candidate_list_table_en.asp)) is performed by SGS in-house test methods. The candidate list of SVHC for authorization is under evaluation by ECHA and may subject to further change in the future.
2. Definition of classification is listed in **Appendix A** of this report in accordance with 67/548/EEC and Regulation (EC) No 1907/2006.
3. \* = Test result is calculated as per selected element(s) and/or ion(s) including cobalt, sodium, lead, arsenic, chloride, dichromate and arsenate. Further confirmation and quantitation techniques including IC chromatography, UV-Vis spectrometry and TLC chromatography would be adopted whenever a positive result is found over the reporting limit.
4. # = The Cr concentration is based on Cr(VI) measurement. The test result is reported as sodium dichromate (CAS number 10588-01-9). Please note that sodium dichromate dihydrate (CAS number 7789-12-0) is no longer classified as SVHC according to the latest amendment of 67/548/EEC (31<sup>st</sup> Adaption to Technical progress) on December 16, 2008.
5. ND = denoted as below the corresponding reporting limit.
6. 0.1% (w/w) = 1,000 ppm = 1,000 mg/kg
7. ^ = Reported limit is derived from the detection limit of selected element(s) and/or ion(s). Reported concentration as per compound is calculated based upon the detected concentration of selected element(s) and/or ion(s).
8. All reporting limits are based on homogeneous material analysis.

### Abbreviations:

AES: Atomic Emission Spectroscopy; ECD: Electron Capture Detector; GC: Gas Chromatography; IC: Ion Chromatography; ICP: Inductively Coupled Argon Plasma; MS: Mass Spectrometry; TLC: Thin Layer Chromatography

\*\*\* End of Report \*\*\*

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### Appendix A

#### Classification Definition under 67/548/EEC and Regulation (EC) No 1907/2006

Carcinogen Category 1: Substances known to be carcinogenic to man. There is sufficient evidence to establish a causal association between human exposure to a substance and the development of cancer.

Carcinogen Category 2: Substances which should be regarded as if they are carcinogenic to man. There is sufficient evidence to provide a strong presumption that human exposure to a substance may result in the development of cancer.  
Generally on the basis of:  
- appropriate long-term animal studies  
- other relevant information.

Mutagen Category 1: Substances known to be mutagenic to man. 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 provide 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.

Toxic to Reproduction Category 2: 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:  
- 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 toxic effects,  
- other relevant information.  
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:  
- 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.

PBT & vPvB: 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.

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**Appendix B**
**Obligations: Articles**

- In accordance with Regulation (EC) No 1907/2006, any producer or importer of 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) of the Regulation, if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of **0.1%** weight by weight (w/w).
- Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above **0.1%** weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.
- Authorization may be required if it contains SVHC listed in Annex XIV of the Regulation.

**Obligations: Packaging Materials and Containers**

- Packaging materials may be produced or imported separately as packaging of imported goods. "Guidance for Articles" published by ECHA (May 2008) revealed that the packaging material or container is always a separate 'article' and to be assessed separately from any object it contains. The obligations for articles also apply to packaging materials.

**Obligations: Preparations**

- For preparation that is intended to be used in the manufacture of article and will be imported into EU in the form of an article, the obligations for articles will be applied.
- For preparation that is directly imported into EU, Article 31 of Regulation (EC) No 1907/2006 requires supplier of a preparation to provide a safety data sheet to the recipients at their request if the preparation contains at least one of the 15 SVHC and its individual concentration is at least **0.1%** weight by weight (w/w) for non gaseous preparations and at least **0.2%** by volume for gaseous preparations.
- Authorization may be required if it contains SVHC listed in Annex XIV of the Regulation. However, authorization is not required if the SVHC meets one of the following criteria: **a)** for substances referred to in Article 57 (d), (e), (f), below a concentration limit of **0.1%** weight by weight (w/w); **b)** for all other substances, below the lowest of the concentration limits specified in Directive 1999/45/EC or in Annex I to Directive 67/548/EEC which result in the classification of the preparation as dangerous.

**Obligations: Substances**

- For substance that is intended to be used in the manufacture of article and will be imported into EU in the form of an article, the obligations for articles will be applied.
- For substance that is directly imported into EU, Article 31 of Regulation (EC) No 1907/2006 requires supplier of a SVHC to provide a safety data sheet to their customers.
- Authorization may be required if the substance is included in Annex XIV of the Regulation.

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