

Supplemental Guide to Answering Chemical Substance Survey based on JGPSSI

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1. Purpose

This document is a supplemental guide for suppliers who are expected to answer “Chemical Substance Survey” of Hamamatsu Photonics K.K. (says HPK as follows) that is carried based on “Management Standard for Chemical Substances” of HPK. This document includes some explanations for original items by HPK that are not referred in “Material Composition Survey and Response Manual” and “Survey Response Tools Ver.3 Operation Manual” by JGPSSI.

2. Objective Parts and Materials

The survey covers the parts and materials shipping from suppliers that are consisted of HPK’s products. The target parts and materials are notified suppliers by HPK.

3. Objective Chemical Substances

24 substances groups as same as those defined by JIG and JGPSSI, which are also listed in “Material Composition Survey and Response Manual”, are subjected to “Chemical Substance Survey”.

4. Outline of How to Answer the Survey

In order to make answers to “Chemical Substance Survey”, suppliers are expected to use files and tools “GreenSurveyTool”, and one or more JGP files that are included in survey request files sent by HPK. Followings are brief outline of how to make answers.

- 1) Launch GreenSurveyTool. ^{*1}
- 2) Load a JGP file including target parts and materials.
- 3) Enter answers. ^{*2}
- 4) Inform the contents by Error Check.
- 5) Save the answer JGP file as another file name. ^{*3}
- 6) If some modifications are needed in the answer JGP file, load it again on GreenSurveyTool and repeat above 3) ~ 5) items.
- 7) Submit the answer JGP file to HPK by email-attached file. ^{*4}

Notes

^{*1}: Please note that macro security level of Excel should be middle when launching GreenSurveyTool.

^{*2}: Please refer to chapter 5 and Table 3 as for items suppliers are expected to answer.

^{*3}: Please refer to chapter 7.

^{*4}: Please refer to chapter 10.

5. Answer Items

Please input your answers to following items in relevant sheets of GreenSurveyTool with reference to “Material Composition Survey and Response Manual” and “Survey Response Tools Ver.3 Operation Manual” by JGPSSI.

- 1) Basic Information about Company
- 2) Information about Parts/Products/Material
- 3) EU RoHS Conformity ^{*5}
- 4) Information about Substance contained in Parts/Products/Material

Notes:

^{*5}: Original Items questioned by HPK. Please refer to chapter 6

6. Notes for Answering Original Items by HPK

(1) Requester's Item3 (a blue-colored area in picture 1)

"Requester's Item3, Note"; Please use it as the remarks column of your company.

Requester's Item1	Requester's Item2	Requester's Item3
		Note

Picture 1

(2) EU RoHS Conformity (a blue-colored area in picture 2)

Please answer following original items questioned by HPK.

Respondent's Item1: EU RoHS Directive conformity status

Respondent's Item2: Substitution product presence/ Substitution completion due date

Respondent's Item3: Substitution product name/ Reasons why no substitutes

"Respondent's Item1: EU RoHS Directives conformity status"

Please enter the number from the following choices with a judgment of your company as for EU RoHS Directive conformity of each target product.

Number	Sense	Description
0	Conforming product	Product that doesn't contain the objective 6 materials of EU RoHS Directive or the material contents in the product is less than conformity judgment standard.
9	Product that fits in exemption rules	Product that fits in exemption rules although containing objective 6 materials of EU RoHS Directive.
1	Not conforming product	Product that fits in neither number 0 nor 9.

" Respondent's Item2: Substitution products presence / Substitute completion due date"

If you enter number "1" in Respondent's Item1, please enter the number and date from the following choices further.

Number	Sense	Description
0	There is a substitution product.	In the case that there is a substitution product already.
Substitute completion due date	Please enter its date as format YYYY/MM/DD.	In the case that if there is a substitution plan even though no substitution product at the time answering.
1	There is no substitution product at this moment and in the future.	In the case that neither substitute product nor plan to substitute at present.

“Respondent’s Item3: Substitution products name / Reasons why no substitutes”

If you enter number “0” in Respondent’s Item2, then please input information about the substitution products (code number or name). On the other hand, if you enter number “1” in Respondent’s Item2 then please input the reasons why there are no substitution products.

Respondent's Item1	Respondent's Item2	Respondent's Item3
RoHS; 0:conform, 1:no, 9:exempt	*Sub; 0:exist, 1:no *Replace date	*Substutue name *Reasons why no one
0		
9		
1	0	ZZZ-IC-003-X
1	2007/03/31	
1	1	No other method

Respondednt's Item1	Respondednt's Item2	Respondednt's Item3
RoHS; 0:conform, 1:no, 9:exempt	*Sub; 0:exist, 1:no *Replace date	*Substutue name *Reasons why no one exists

Due to display restriction, several list titles in the answer sheet could be hardly seen. Please confirm above information.

Picture 2

Criteria of judgment with regard to EU RoHS Directive conformity

1) Position to Maximum Concentration Value

It is based on Table 1 according to relevant Official Journal^{*6} and FAQ^{*7} issued by EU commission.

Notes

*6 Official Journal L 214 , 19/08/2005 P. 0065-0065

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005D0618:EN:HTML>

*7 http://ec.europa.eu/environment/waste/pdf/faq_www.pdf

Table 1

Objective Material	Maximum Concentration Value
Lead, Mercury, Hexavalent chromium, PBB, PBDE	1000 ppm (0.1%)
Cadmium	100 ppm (0.01%)

A maximum concentration value of 0.1% by weight in homogeneous materials in the target product for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and of 0.01% weight in homogeneous materials in the target product for cadmium shall be allowed.

The term "homogeneous" means "of uniform composition throughout". Examples of "homogeneous materials" are individual types of: plastics, ceramics, glass, metals, alloys, paper, board, resins, and coatings.

The term "mechanically disjointed" means that the materials can, in principle, be separated by mechanical actions such as: unscrewing, cutting, crushing, grinding and abrasive processes.

The compound parts and materials are fits into followings;

- Chemical compound, Alloy and metals shall be as homogeneous materials.
- Each single layer shall be as homogeneous material in terms of single or multiple layer of coating compound, printing and plating.

2) Examples determining whether conformity or non-conformity

(E.g. 1) In case that containing 0.03mg Pb in 10mg homogeneous material.

$$\begin{aligned} \text{Content ratio [ppm]} &= \frac{\text{Substance amounts in homogeneous material [mg]}}{\text{Mass of homogeneous material [mg]}} \times 1,000,000 \\ &= \frac{0.03 \text{ [mg]}}{10 \text{ [mg]}} \times 1,000,000 = 3,000 \text{ [ppm]} \end{aligned}$$

Non-conformity due to 3,000 [ppm] >= 1,000 [ppm]

(E.g. 2) In the case that containing 0.002% Cd in the homogeneous material.

Content ratio [ppm] = 0.002 [%] X 10,000 = 20 [ppm]

Conformity due to 20 [ppm] =< 100 [ppm]

3) EU RoHS Directive Exemptions

Table 2

1.	Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
2.	Mercury in straight fluorescent lamps for general purposes not exceeding: - halophosphate 10 mg, - triphosphate with a normal lifetime 5 mg, - triphosphate with long lifetime 8 mg.
3.	Mercury in straight fluorescent lamps for special purposes.
4.	Mercury in other lamps not specifically mentioned in this Annex.
5.	Lead in glass of cathode ray tubes, electronic components and fluorescent.
6.	Lead as an alloying element in steel containing up to 0.35 % lead by weight, aluminum containing up to 0.4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.

7.	- Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead). - Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications. - Lead in electronic ceramic parts (e.g. piezoelectronic devices).
8.	Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations.
9.	Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.
9a.	DecaBDE in polymeric applications.
9b.	Lead in lead-bronze bearing shells and bushes.
11.	Lead used in compliant pin connector systems.
12.	Lead as a coating material for a thermal conduction module c-ring.
13.	Lead and Cadmium in optical and filter glass.
14.	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight.
15.	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.
16.	Lead in linear incandescent lamps with silicate coated tubes.
17.	Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.
18.	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5: Pb) as well as when used as specialty lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr, Ba) 2MgSi2O7:Pb).
19.	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL).
20.	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
21.	Lead and cadmium in printing inks for the application of enamels on borosilicate glass.
22.	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fiber optic communications systems.
23.	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.
24.	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.
25.	Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.
26.	Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.
27.	Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.
28.	Hexavalent chromium in corrosion preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1.
29.	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.

Items that will be added or modified by European Commission in the future are taken account of HPK's "Criteria of judgment with regard to EU RoHS Directive conformity" at the time announced formally.

7. Notes for saving JGP file

Please save the answer JGP file as following:

File name at requesting

“survey No_” + “supplier code” + “_” + “sequence number”.jpg1

Ex) 9999-0012345_1.jpg1

File name at submitting

“survey No_” + “supplier code” + “_” + “sequence number” + “_” + “answer data as YYYYMMDD”.jpg1

Ex) 9999-0012345_1-20060101.jpg1

8. Confirmation of Answers

Please complete the items shown as in “GreenSurveyTool” basically thorough confirming the contents by Error Check command. Table 3 shows items that suppliers are expected to fill out as an essential or a voluntary basis.

Table 3

Item		Description	Who fill out	
Basic Information about Company	Reference Number	Please do not modify and delete since filled out by HPK initially.	HPK	
	Date of Data Entry			
	Requester Information			Company Name
				DUNS Number
				Division Name
				Contact Name
				Telephone Number
				Fax Number
	Email Address			
	Respondent's date or data entry	Essential: Please fill out a response date at the time your company completed the answers.	Supplier	
	Respondent Information	Company Name		Essential
		DUNS Number		Voluntary
		Address		Essential
		Division Name		Essential
		Contact Name		Essential
Telephone Number		Essential		
Fax Number		Voluntary		
Email Address	Voluntary			
Additional information regarding survey responses	Voluntary			
Information about Parts/ Products/ Material	Parts Number	Items are shown by loading JGP file. Please do not modify and delete those since filled out by HPK initially.	HPK	
	Parts Name			
	Requester's Item3 : Note	Voluntary: Please use as remarks on your company.	Supplier	
	Manufacturer Name	Essential		
	Respondent's product/subparts/material number	Essential		

	Respondent's product/subparts/material name	Essential	
	Repondent's Item1: EU RoHS Directives conformity status	Essential: Please make sure to fill out relevant number is filled out such as "0", "9", and "1".	
	Repondent's Item2: Substitution products presence / Substitute completion due date	Please make sure to fill out if "1" at the "Repondent's Item1: EU RoHS Directives conformity status"	
	Repondent's Item3: Substitution products name / Reasons why no substitutes	Please make sure to fill out based on the answers of "Repondent's Item1: EU RoHS Directives conformity status" and "Repondent's Item2: Substitution products presence / Substitute completion due date".	
	Data Version	Voluntary	
	Revision Date	Essential	
	Surveying Unit	Essential	
	Survey Unit Mass (g/unit)	Essential	
	Overall Content Flag (Y/N)	Automatically displayed after entering Information about Substance contained in Parts/ Products/ Material	
Information about Substance contained in Parts/ Products/ Material	Content Flag by Threshold Level (Y/N)	Essential	Supplier
	Total Content (mg)	Essential: If the content flag is Y, both Levels A and B require entry.	
	Intended use classification	Essential: If the content flag is Y, Please click the box <input type="checkbox"/> in the applicable use column on the right of each item to display the check mark.	
	Purpose of use/ Intended use	Essential: If the content flag is Y, both Levels A and B require entry.	
	Application area	Essential: If the content flag is Y, both Levels A and B require entry.	
	Maximum content rate (ppm)	Essential: If the content flag is Y, both Levels A and B require entry.	
	Additional information on material composition of products	Essential: If the content flag is Y, both Levels A and B require entry.	

* Please make sure to complete the items through confirming the contents by Error Check command.

9. Information Handling

- 1) HPK handles information from suppliers with care. Please notify HPK if it includes confidential data.
- 2) Please pay attention to fill out your answer correctly. HPK may modify If there are some misdescription obviously without confirming with suppliers
- 3) Please notify HPK if there are some modifications or revisions of your answer after submitting to HPK. Beside that please cooperate with additional survey when HPK asks for suppliers.

10. Contact information

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