



# Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

Adobe Reader version 7.0.5 is required to complete this declaration.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard <a href="http://www.ipc.org/IPC-175x">http://www.ipc.org/IPC-175x</a>	Form Type * Distribute	Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Informat
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## Supplier Information

Company Name * STMicroelectronics	Company Unique ID	Unique ID Authority	Response Date * 2013-02-11	Response Document ID 9E5V*79AX25T				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *	Duplicate Contact -> Authorized Representative				
Authorized Representative * Laurent Tosi	Title - Representative MMS Central Packaging	Phone - Representative * +33 442 685 795	Email - Representative * laurent.tosi@st.com	Supplier Comments or URL for Additional Information				
Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight *	UOM	Unit Type
		LQFP 32L BODY 7x7x1.4 FOO	2013-02-11	A	Muar	180	mg	Each
Alternate Recommendation				Alternate Item Comments				

## Manufacturing Process Information

Terminal Plating / Grid Array Material Nickel/Palladium/Gold (Ni/Pd/Au)	Terminal Base Alloy CU Alloy	J-STD-020 MSL Rating 3	Peak Process Body Temperature 260 C	Max Time at Peak Temperature 30 seconds	Number of Reflow Cycles 3
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Comments

**Ecopack 2 compliant: means Br-Cl & Sb oxide free. DISCLAIMER: While STMicroelectronics has endeavored to provide information which is accurate and up to date, this docum**

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**RoHS Material Composition Declaration**

Declaration Type \*

Detailed

**RoHS Directive 2002/95/EC** **RoHS Definition:** Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a "RoHS restricted substance") in excess of the applicable quantity limit identified above. If a homogeneous material within the part contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part, the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.

**RoHS Declaration \*** 1 - Item(s) does not contain RoHS restricted substances per the definition above

**Supplier Acceptance \*** Accepted

**Exemptions:** If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

**Declaration Signature**

**Instructions:** Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature

## Homogeneous Material Composition Declaration for Electronic Products

**SubItem Instructions:** The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

**Substance Instructions:** [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

**Line Functions:** +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

		Item/SubItem Name			Homogeneous Material	Weight	Unit of Measure			Level	Substance Category			Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
+I	-I		+M	-M				+C	-C			+S	-S						-	+	
+I	-I	LQFP 32L BODY 7x	+M	-M	Chip	6.473565	mg	+C	-C	Supplier	silicon die	+S	-S	Silicium (Si)	7440-21-3		6.464509	mg			35,914
								+C	-C	Supplier	die metallization	+S	-S	Aluminium(Al)	7429-90-5		0.003411	mg			18.954
												+S	-S	Copper (Cu)	7440-50-8		0.003748	mg			20.826
												+S	-S	Titanium (Ti)	7440-32-6		0.001895	mg			10.530
			+M	-M	Lead-frame	69.9126	mg	+C	-C	Supplier	alloy	+S	-S	Copper (Cu)	7440-50-8		67.25593	mg			373,64
												+S	-S	Nickel (Ni)	7440-02-0		2.097378	mg			11,652
												+S	-S	Silicium (Si)	7440-21-3		0.454431	mg			2,524.6
												+S	-S	Magnesium (Mg)	7439-95-4		0.104868	mg			582.60
			+M	-M	Lead-frame Coat	0.40301	mg	+C	-C	Supplier	coating	+S	-S	Nickel (Ni)	7440-02-0		0.368691	mg			2,048.2
												+S	-S	Palladium (Pd)	7440-05-3		0.011953	mg			66.407
												+S	-S	Gold (Au)	7440-57-5		0.011183	mg			62.131
												+S	-S	Silver (Ag)	7440-22-4		0.011183	mg			62.131
			+M	-M	Die Attach	1.408252	mg	+C	-C	Supplier	glue or soft solder	+S	-S	Silver (Ag)	7440-22-4		1.084354	mg			6,024.2
												+S	-S	Epoxy Cresol Novolak	29690-82-2		0.318264	mg			1,768.1
												+S	-S	1-isopropyl-2,2-dimethy	6846-50-0		0.005633	mg			31.294
			+M	-M	Wires	0.644652	mg	+C	-C	Supplier	Bonding wire	+S	-S	Gold (Au)	7440-57-5		0.644652	mg			3,581.4
			+M	-M	Encapsulation	101.155	mg	+C	-C	Supplier	Moulding Compound	+S	-S	Solid Epoxy Resin	na		7.08085	mg			39,338
												+S	-S	Phenol Resin	na		5.05775	mg			28,098
												+S	-S	Silica, vitreous	60676-86-0		88.35889	mg			490,88
												+S	-S	Carbon-black	1333-86-4		0.505775	mg			2,809.8
								+C	-C	B	Bismuth/Bismuth Com	+S	-S	Bismuth	7440-69-9		0.151732	mg			842.95
			+M	-M	Finishing	0.002565	mg	+C	-C	Supplier	connections coating	+S	-S	Nickel (Ni)	7440-02-0		0.002346	mg			13.036
												+S	-S	Palladium (Pd)	7440-05-3		0.000076	mg			0.4226

+S	-S	Gold (Au)	7440-57-5		0.000071	mg			0.3954
+S	-S	Silver (Ag)	7440-22-4		0.000071	mg			0.3954