



## Materials Declaration Form

<b>IPC</b>	1752	<b>Version</b>	2
<b>Form Type *</b>	Distribute		
<b>Sectionals *</b>	Material Info Manufacturing Info	<b>Subsectionals *</b>	A-D

*\* : Required Field*

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	02/20/2015
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	Refer to "Supplier Comment" section
<b>Contact Phone *</b>	Refer to "Supplier Comment" section	<b>Contact Email *</b>	Refer to "Supplier Comment" section
<b>Authorized Representative *</b>	Giuseppe Vitali Palma	<b>Representative Title</b>	AMS/IPD Materials Declaration Champion
<b>Representative Phone *</b>	Refer to "Supplier Comment" section	<b>Representative Email *</b>	Refer to "Supplier Comment" section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

**Uncertainty Statement**


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Legal Statement		
<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>
		Standard

**Legal Statement**

Supplier certifies that it gathered the provided information and 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. 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(s), 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(s), 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.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	TSFP*M5F2B52	A	SH1A	02/20/2015
Amount	UoM	Unit type	ST ECOPACK Grade	
1900.000	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
NAC	NAC	NAC		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy		
Not Applicable ; if coating is used on	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape
SIP	10.2X9.2X4.5	2	Through-hole
Comment	Package: TO 220 ISO FULL PACK IN LINE; MD valid for STF15N65M5, STF12N65M5		

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : REACH-17th December 2014				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	TSFP*MSF2B52					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	5.481	mg	supplier	die	Silicon (Si)	7440-21-3		5.262	mg	960044	2769
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.105	mg	19157	55
die (s)				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.025	mg	4561	13
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.037	mg	6751	19
die (s)				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.003	mg	547	2
die (s)				supplier	back side metallization	Silver (Ag)	7440-22-4		0.013	mg	2372	7
die (s)				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.036	mg	6568	19
Leadframe	Copper & its alloys	663.598	mg	supplier	alloy	Copper (Cu)	7440-50-8		662.721	mg	998678	348801
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.664	mg	1001	349
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.199	mg	300	105
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.013	mg	20	7
Leadframe				supplier	metallization	Phosphorus (P)	12185-10-3		0.001	mg	2	1
Die attach	Other Organic Materials	4.23	mg	JIG R	Soft solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	4.039	mg	954846	2126
Die attach				supplier	Soft solder	Silver (Ag)	7440-22-4		0.106	mg	25059	56
Die attach				supplier	Soft solder	Tin (Sn)	7440-31-5		0.085	mg	20095	45
Bonding wire	Other inorganic materials	1.104	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.103	mg	999094	581
Bonding wire				supplier	wire	Magnesium (Mg)	7429-90-5		0.001	mg	906	1
encapsulation	Other Organic Materials	1219.721	mg	supplier	mold compound	Silica, vitreous	60676-86-0		91.479	mg	75000	48147
encapsulation				supplier	mold compound	Quartz	14808-60-7		853.805	mg	700000	449371
encapsulation				supplier	mold compound	Epoxy resin	Proprietary		170.761	mg	140000	89874
encapsulation				supplier	mold compound	phenol resin	Proprietary		85.38	mg	70000	44937
encapsulation				supplier	mold compound	carbon black	1333-86-4		6.099	mg	5000	3210
encapsulation				supplier	mold compound	metal hydroxide	Proprietary		12.197	mg	10000	6419
connections coating	Solder	5.866	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.866	mg	1000000	3087