



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2019-07-02
<b>Company Unique ID</b>	NL 008751171B01		
<b>Contact Name *</b>	Refer to Supplier Comment section		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>	Giovanni Giacopello	<b>Representative Title</b>	ADG MD 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/web/en/support/support.html">http://www.st.com/web/en/support/support.html</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
STPSC20065CWL	H8PN*054L1T7	A	Z45A	2019-07-02
	Amount	UoM	Unit type	ST ECOPACK Grade
	6100	mg	Each	ECOPACK® 2
	Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant ( in each organic material)		

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

Package Designator	Size	Nbr of instances	Shape	
SIP	15.77 - 20.83 - 4.9	3	Through-hole	
Comment	Package: TO247 LONG LEADS			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	TRUE
2 - 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
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	FALSE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption id.	Description

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	TRUE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	FALSE
Exemption id.	Description

QueryList : California Prop65 list, dated 26th October 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.07	Die	12

QueryList : REACH-15th January 2019				
Query				Response
1 - Product(s) 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
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	H8PN*054L117					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	4.239	mg	supplier	die	Silicium carbide	409-21-2		3.998	mg	943147	655
				supplier	metallization	Aluminium (Al)	7429-90-5		0.048	mg	11323	8
				supplier	metallization	Gold (Au)	7440-57-5		0.007	mg	1652	1
				supplier	passivation	Nickel (Ni)	7440-02-0		0.038	mg	8964	6
				supplier	metallization	Silver (Ag)	7440-22-4		0.082	mg	19344	13
				supplier	metallization	Titanium (Ti)	7440-32-6		0.003	mg	708	0
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	472	0
				supplier	back side metallization	Gold (Au)	7440-57-5		0.007	mg	1651	1
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.033	mg	7785	5
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.021	mg	4954	3
Leadframe	M-004 Copper and its alloys	3550.781	mg	supplier	alloy	Copper (Cu)	7440-50-8		3544.036	mg	998100	580990
				supplier	alloy	Iron (Fe)	7439-89-6		5.326	mg	1500	873
				supplier	alloy	Phosphorus (P)	12185-10-3		1.419	mg	400	234
Soft solder	Solder	49.208	mg	supplier	solder	Tin (Sn)	7440-31-5		31.984	mg	649976	5243
				supplier	solder	Silver (Ag)	7440-22-4		12.302	mg	250000	2017
				supplier	solder	Antimony (Sb)	7440-36-0		4.922	mg	100024	807
Bonding wire	M-003 Aluminum and its alloys	39.454	mg	supplier	wire	Aluminium (Al)	7429-90-5		39.454	mg	1000000	6468
Encapsulation	M-011 Other inorganic materials	2428.864	mg	supplier	mold compound	Silica, vitreous	60676-86-0		1901.801	mg	783000	311771
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		364.329	mg	150000	59726
				supplier	mold compound	Phenol resin	9003-35-4		121.442	mg	50000	19909
				supplier	mold compound	Triphenylphosphine	603-35-0		19.430	mg	8000	3185
				supplier	mold compound	Bismuth compound	Proprietary		12.145	mg	5000	1991
Connections coating	Solder	27.454	mg	supplier	mold compound	Carbon Black	1333-86-4		9.717	mg	4000	1593
				supplier	solder alloy	Tin (Sn)	7440-31-5		27.454	mg	1000000	4501