



## 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  * : Required Field

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2019-05-15
<b>Company Unique ID</b>	NL 008751171801		
<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>	Rossana Bonaccorso	<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
STP12N65M2	TLDZ*MQFEB62	A	3068	2019-05-15
	Amount	UoM	Unit type	ST ECOPACK Grade
	1900.00	mg	Each	ECOPACK2
	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
NA	NA	NA		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10-9.1-4.5	3	THROUGH HOLE	
Comment	TO 220 AB NON ISOL			

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	FALSE
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)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	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 : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 8th March 2019			
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	0.53	Die - Leadframe	279
Lead	5.40	Soft solder	2843

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				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	5.40	Soft solder	2843
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				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	5.40	Soft solder	955092

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TLDZ*MQFE62					
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	6.088	mg	supplier	die	Silicon (Si)	7440-21-3		5.846	mg	960250	3077
				supplier	metallization	Aluminium (Al)	7429-90-5		0.116	mg	19054	61
				supplier	Passivation	Silicon Nitride	12033-89-5		0.028	mg	4599	15
				supplier	Passivation	Silicon Oxide	7631-86-9		0.041	mg	6734	22
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.003	mg	493	2
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.040	mg	6570	21
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.014	mg	2300	7
				supplier	alloy	Copper (Cu)	7440-50-8		1251.376	mg	998278	658619
Leadframe	M-004 Copper and its alloys	1253.535	mg	supplier	alloy	Iron (Fe)	7439-89-6		1.253	mg	1000	659
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.376	mg	300	198
				supplier	metallization	Nickel (Ni)	7440-02-0		0.490	mg	391	258
				supplier	metallization	Phosphorus (P)	7723-14-0		0.040	mg	31	21
				supplier	alloy	Lead (Pb)	7439-92-1	7a-Lead in high mel	5.402	mg	955092	2843
Soft solder	Solder	5.656	mg	JIG - R	solder	Silver (Ag)	7440-22-4		0.141	mg	24929	74
				supplier	solder	Tin (Sn)	7440-31-5		0.113	mg	19979	59
Bonding wires	M-011 Other inorganic materials	0.735	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.732	mg	995918	385
				supplier	wire	Magnesium (Mg)	7439-95-4		0.003	mg	4082	2
Encapsulation	M-011 Other inorganic materials	627.624	mg	supplier	mold compound	Silica, vitreous	60676-86-0		546.033	mg	870000	287386
				supplier	mold compound	Epoxy resin	25068-38-6		62.762	mg	99999	33033
				supplier	mold compound	Phenol resin	29690-82-2		15.691	mg	25001	8258
				supplier	mold compound	Carbon Black	1333-86-4		3.138	mg	5000	1652
Connections coating	Solder	6.362	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		6.362	mg	1000000	3348