



## 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>	2019-01-11
<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>	Giovanni Giacobello	<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
TYN608RG	7AVP*086HNCP	A	3068	2019-01-11
	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	10.2-15.5-4.5	3	Through-hole	
Comment	TO 220 NI CLIP			

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)
7c-l	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

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)
10a	Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: — glass in bulbs and glaze of spark plugs, — dielectric ceramic materials of components listed under

QueryList : California Prop65 list, dated 25th May 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	0.19	Die	98
Lead	16.33	Die - Soft solder	8596
Lead-Borate Glass	0.86	Die	453

QueryList : REACH-27th June 2018				
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	16.33	Die - Soft solder	8596
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	16.33	Die - Soft solder	1633874

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	7AVP*086HNC					
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	17.518	mg	supplier	die	Silicon (Si)	7440-21-3		3.926	mg	224157	2067
				supplier	metallization	Gold (Au)	7440-57-5		0.015	mg	856	8
				supplier	metallization	Nickel (Ni)	7440-02-0		0.079	mg	4509	42
				JIG - R	Passivation	Lead (Pb)	7439-92-1	7c-I-Electrical and e	12.503	mg	713682	6581
				supplier	Passivation	Silicon Oxide	7631-86-9		0.022	mg	1256	12
				supplier	back side metallization	Gold (Au)	7440-57-5		0.005	mg	285	3
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.107	mg	6108	56
Leadframe	M-004 Copper and its alloys	1253.002	mg	JIG-R & California 65	glass coating	Lead-Borate Glass	65997-18-4	7c-I-Electrical and e	0.861	mg	49147	453
				supplier	alloy	Copper (Cu)	7440-50-8		1251.373	mg	998700	658617
				supplier	alloy	Iron (Fe)	7439-89-6		1.253	mg	1000	659
Soft solder	Solder	4.160	mg	supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.376	mg	300	198
				JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	3.828	mg	920192	2015
				supplier	solder	Silver (Ag)	7440-22-4		0.104	mg	25000	53
				supplier	solder	Tin (Sn)	7440-31-5		0.207	mg	49760	109
Encapsulation	M-011 Other inorganic materials	587.333	mg	supplier	solder	flux residue	Proprietary		0.021	mg	5048	11
				supplier	mold compound	Silica, vitreous	60676-86-0		446.372	mg	759998	234933
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		59.908	mg	102000	31531
				supplier	mold compound	Phenol resin	9003-35-4		35.240	mg	60000	18547
				supplier	mold compound	Others	Proprietary		29.367	mg	50000	15456
				supplier	mold compound	Metal hydroxide	21645-51-2		11.747	mg	20001	6183
Connections coating	Solder	6.362	mg	supplier	mold compound	Carbon black	1333-86-4		4.699	mg	8001	2473
				supplier	solder alloy	Tin (Sn)	7440-31-5		6.362	mg	1000000	3348
Clip		31.625	mg	supplier	alloy	Copper ( Cu)	7440-50-8		31.625	mg	1000000	16645