



## 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>	2019-04-26
<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 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
STPS20M100ST	H8DZ*Z80M01V	A	9945	2019-04-26
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 23rd November 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	0.57	Die - Leadframe	301
Lead	6.41	Soft solder	3373

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	6.41	Soft solder	3373
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	6.41	Soft solder	954999

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	H8D2*280M01V					
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	7.576	mg	supplier	die	Silicon (Si)	7440-21-3		7.126	mg	940602	3751
				supplier	metallization	Aluminium (Al)	7429-90-5		0.295	mg	38939	155
				supplier	metallization	Nickel (Ni)	7440-02-0		0.032	mg	4224	17
				supplier	metallization	Titanium (Ti)	7440-32-6		0.007	mg	924	4
				supplier	metallization	Tungsten (W)	7440-33-7		0.011	mg	1452	6
				supplier	Passivation	Silicon Oxide	7631-86-9		0.043	mg	5675	23
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.003	mg	396	2
				supplier	back side metallization	Gold (Au)	7440-57-5		0.010	mg	1320	5
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.049	mg	6468	26
				Leadframe	M-004 Copper and its alloys	1253.535	mg	supplier	alloy	Copper (Cu)	7440-50-8	
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	20
Soft solder	Solder	6.711	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high met	6.409	mg	954999	3373
				supplier	solder	Silver (Ag)	7440-22-4		0.168	mg	25034	88
				supplier	solder	Tin (Sn)	7440-31-5		0.134	mg	19967	71
Bonding wires	M-011 Other inorganic materials	15.884	mg	supplier	wire	Aluminium (Al)	7429-90-5		15.884	mg	1000000	8360
Encapsulation	M-011 Other inorganic materials	609.932	mg	supplier	mold compound	Silica, vitreous	60676-86-0		530.641	mg	870000	279285
				supplier	mold compound	Epoxy resin	25068-38-6		60.993	mg	100000	32102
				supplier	mold compound	Phenol resin	29690-82-2		15.248	mg	25000	8025
				supplier	mold compound	Carbon Black	1333-86-4		3.050	mg	5000	1605
Connections coating	Solder	6.362	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		6.362	mg	1000000	3348