



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2019-04-24
Company Unique ID	NL 008751171B01		
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Authorized Representative *	Giovanni Giapello	Representative Title	ADG MD Champion
Representative Phone *	Refer to Supplier Comment section	Representative Email *	Refer to Supplier Comment section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/web/en/support/support.html		

Uncertainty Statement


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Legal Statement		
Supplier Acceptance *	true	Legal Declaration *
		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
STF3NK100Z	TSFP*EZ036W2	A	3068	2019-04-24
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	10.2-16.15-4.5	3	Through-hole	
Comment	TO 220 ISO FULL PACK IN LINE			

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	0.72	Die - Leadframe	377
Lead	5.81	Soft solder	3059

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	5.81	Soft solder	3059
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	5.812	Soft solder	954979

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TSFP*E2036W2					
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	6.624	mg	supplier	die	Silicon (Si)	7440-21-3		6.316	mg	953502	3324
				supplier	metallization	Aluminium (Al)	7429-90-5		0.157	mg	23702	83
				supplier	Passivation	Silicon Oxide	7631-86-9		0.090	mg	13587	47
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.003	mg	453	2
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.043	mg	6492	23
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.015	mg	2264	8
Leadframe	M-004 Copper and its alloys	605.985	mg	supplier	alloy	Copper (Cu)	7440-50-8		604.469	mg	997498	318142
				supplier	alloy	Iron (Fe)	7439-89-6		0.605	mg	999	317
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.182	mg	300	96
				supplier	metallization	Nickel (Ni)	7440-02-0		0.674	mg	1112	355
				supplier	metallization	Phosphorus (P)	7723-14-0		0.055	mg	91	29
				supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	5.812	mg	954979	3059
Soft solder	Solder	6.086	mg	supplier	solder	Silver (Ag)	7440-22-4		0.152	mg	24975	80
				supplier	solder	Tin (Sn)	7440-31-5		0.122	mg	20046	64
				supplier	wire	Aluminium (Al)	7429-90-5		0.153	mg	993506	81
Bonding wires	M-004 Copper and its alloys	0.154	mg	supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	6494	1
				supplier	compound	Quartz	14808-60-7		892.700	mg	700000	469842
Encapsulation	M-011 Other inorganic materials	1275.285	mg	supplier	compound	Silica, vitreous	60676-86-0		95.646	mg	75000	50340
				supplier	compound	Epoxy resin	25068-38-6		178.540	mg	140000	93968
				supplier	compound	phenol resin	29690-82-2		89.270	mg	70000	46984
				supplier	compound	metal hydroxide	Proprietary		12.753	mg	10000	6712
				supplier	compound	carbon black	1333-86-4		6.376	mg	5000	3356
connections coating	Solder	5.866	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.866	mg	1000000	3087