



## Material declaration form

General Information			
IPC	1752	Version	2
Form type*	Distribute		
Sectionals*	Material information	Subsectionals*	A-D
	Manufacturing information		*: Required Field

Supplier Information			
Company name*	STMicroelectronics	Response Date*	2024-12-16
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 giacopello	Representative title	MDRF Material Declaration champion
Representative phone*	Refer to Supplier Comment section	Representative email*	Refer to Supplier Comment section
Supplier comment	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**

Supplier acceptance*	Legal declaration*	Standard
true		

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	Manufacturing site	date
HFDA90D-F2T	AHF2*UR8LBY1	A	959	2024-12-16
	Amount	Unit of measure	Unit type	ST ECOPACK grade
	180.00	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 temperature	Number of reflow cycles		
3	260	3		
Bulk solder termination	Terminal plating	Terminal base alloy	Comment	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy	DM01131405	
Package designator	Package size	Number of instances	Shape	
QFN	7x7x1.49	48	Gull wing	
Comment	LQFP 7X7 48L EXPOSED PAD UP. MDF valid for CPs: HFDA90D-F2T,HFDA90D-F2Y			

QueryList : RoHS Directive 2011/65/EU- 8 June 2011 – Annex II amended by Delegated Directive 2015/863 - 31 March 2015		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 2020/363_March 2020		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 29th December 2023			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	1.132	die - leadframe	6289

QueryList : REACH-7th November 2024				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



QueryList : Responsible metals sourcing	Response
The component is containing at least one of the following metals : Cobalt , Gold , Tantalum , Tin , Tungsten.	true
The following metals are present is the component :	<b>Cobalt, Gold, Tungsten,</b>

QueryList : Korea Chemical Control Act_ 27 Dec 2017 update	Response
The Product does contain at least one of the substances listed in Chemical Control Act	False

QueryList : China GB 33372-2020 Limit standard for volatile organic compounds content in adhesives - 4 March 2020 application date 1st December 2020	Response
The product contains adhesives identified under GB 33372	False

Stockholm Convention Persistent Organic Pollutants	Response
Product is compliant with Stockholm Convention Persistent Organic Pollutants Annex I	True

QueryList : EUSR Directive	Response
Product contains hazardous materials listed in EUSR Annex II	False

PFAS/PTFE Declaration	Response
The product is containing at least one of the following PFAS substance: Polytetrafluoroethylene, Thiophenium, Triphenylsulfonium nonaflate, Trifluoroacetic anhydride	False

BPA Declaration	Response
Product does not contain Bisphenol A (Isopropylidenediphenol)	True

Montreal Protocol	Response
Product does not contain Ozone Depleting Substances based on Annex I to Annex VII of EU REGULATION (EC) No 1005/2009	True

Environmental Protection Agency: Toxic Substances Control Act (TSCA). Section 6(h)	Response
Product does not contain Phenol, isopropylated, phosphate (3:1)	True



Material Composition Declaration :						Mfr Item Name	AHF2*UR8LBY1		180.0000		6000000.0	1000000.0
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous material	Material group	Mass	Unit of measure	Level	Substance category	Substance	CAS	Exempt	Mass	Unit of measure	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	18.047	mg	supplier	die	Silicon(Si)	7440-21-3		16.520	mg	915388	91778
				supplier	metallisation	Copper(Cu)	7440-50-8		1.126	mg	62393	6256
				supplier	metallisation	Cobalt(Co)	7440-48-4		0.002	mg	111	11
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.126	mg	6982	700
				supplier	metallisation	Palladium(Pd)	7440-05-3		0.040	mg	2216	222
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.001	mg	55	6
				supplier	metallisation	Tungsten(W)	7440-33-7		0.052	mg	2881	289
				supplier	passivation	Silicon oxide	7631-86-9		0.180	mg	9974	1000
				Leadframe	M-004 Copper and its alloys	68.567	mg	supplier	alloy	Copper(Cu)	7440-50-8	
supplier	alloy	Iron(Fe)	7439-89-6						1.546	mg	22547	8589
supplier	alloy	Iron phosphide	1310-43-6						0.093	mg	1356	517
supplier	alloy	Zinc(Zn)	7440-66-6						0.081	mg	1181	450
supplier	metallization	Nickel (Ni)	7440-02-0						1.006	mg	14672	5589
supplier	metallization	Palladium (Pd)	7440-05-3						0.026	mg	379	144
supplier	metallization	Gold (Au)	7440-57-5						0.062	mg	904	344
supplier	metallization	Silver (Ag)	7440-22-4						0.008	mg	117	44
Die attach	M-011 Other inorganic materials	2.127	mg					supplier	glue	Silver(Ag)	7440-22-4	
				supplier	glue	Bismaleimide resin	35325-39-4		0.289	mg	135872	1606
				supplier	glue	Additives	proprietary		0.040	mg	18806	222
Bonding wires	M-004 Copper and its alloys	1.901	mg	supplier	wire	Copper(Cu)	7440-50-8		1.901	mg	1000000	10561
Bonding wires 2	M-004 Copper and its alloys	1.656	mg	supplier	wire	Copper(Cu)	7440-50-8		1.656	mg	1000000	9200
Encapsulation	M-011 Other inorganic materials	87.702	mg	supplier	mold compound	Silica vitreous	60676-86-0		71.433	mg	814497	396850
				supplier	mold compound	Silicon oxide	7631-86-9		6.578	mg	75004	36544
				supplier	mold compound	Epoxy type resin	proprietary		6.578	mg	75004	36544
				supplier	mold compound	Phenol type resin	proprietary		2.631	mg	29999	14617
				supplier	mold compound	Carbon black	1333-86-4		0.482	mg	5496	2678