



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>02/19/2015</b>
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	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>	<b>Giuseppe Vitali Palma</b>	<b>Representative Title</b>	AMS & IPD Materials Declaration 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/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	<b>true</b>	<b>Legal Declaration *</b>	<b>Standard</b>
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**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
	RVWX*V431AD6	A	ZS1A	02/19/2015
Amount	UoM	Unit type	ST ECOPACK Grade	
10.000	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used o	Tin (Sn), matte	Copper Alloy		



Package Designator	Size	Nbr of instances	Shape	
DSO	2.8X1.5X0.9	3	gull wing	
Comment	Package: SOT 23 3 LDS; MD for Product TLVH431BIL3T, TLVH431AIL3T			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	<b>true</b>
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
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-17th December 2014				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				<b>true</b>
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	RVWX*V431AD6					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Silicon Die	Other Inorganic Material	0.351	mg	Supplier	Silicon Die	Silicon (Si)	7440-21-3		0.339	mg	965812	33900
Silicon Die			mg	supplier	metallization	Aluminium (Al)	7429-90-5		0.002	mg	5698	200
Silicon Die			mg	supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.001	mg	2849	100
Silicon Die			mg	supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.005	mg	14245	500
Silicon Die			mg	supplier	passivation	Gamma-butyrolactone	96-48-0		0.003	mg	8547	300
Silicon Die			mg	supplier	passivation	Polyhydroxyamide	55295-98-2		0.001	mg	2849	100
Leadframe	Copper and its alloy	2.576	mg	Supplier	Alloy	Copper	7440-50-8		2.495	mg	959615	249500
Leadframe			mg	Supplier	Alloy	Iron	7439-89-6		0.053	mg	20385	5300
Leadframe			mg	Supplier	Alloy	Iron Phosphide (Fe2P)	1310-43-6		0.001	mg	385	100
Leadframe			mg	Supplier	Alloy	Zinc	7440-66-6		0.003	mg	1154	300
Leadframe			mg	Supplier	Alloy	Silver	7440-22-4		0.024	mg	9231	2400
Die Attach	Other Organic Material	0.041	mg	Supplier	Glue	Silver	7440-22-4		0.024	mg	9231	2400
Die Attach			mg	Supplier	Glue	methylene diacrylate	42594-17-2		0.007	mg	148936	700
Die Attach			mg	Supplier	Glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.003	mg	63830	300
Die Attach			mg	Supplier	Glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.003	mg	63830	300
Die Attach			mg	Supplier	Glue	Palladium (Pd)	7440-05-3		0.003	mg	63830	300
Die Attach			mg	Supplier	Glue	Bis(α,α-dimethylbenzyl) peroxide	80-43-3		0.001	mg	21277	100
Bonding Wire	Other Inorganic Material	0.03	mg	Supplier	Bonding Wire	Cu	7440-50-8		0.03	mg	638298	3000
Encapsulation	Other Organic Material	6.802	mg	Supplier	Molding Compound	Epoxy Resin-1	Proprietary		0.203	mg	1000000	20300
Encapsulation			mg	Supplier	Molding Compound	Epoxy Resin-2	Proprietary		0.203	mg	30762	20300
Encapsulation			mg	Supplier	Molding Compound	Phenol resin	Proprietary		0.305	mg	46219	30500
Encapsulation			mg	Supplier	Molding Compound	Silica	60676-86-0		6.077	mg	920897	607700
Encapsulation			mg	Supplier	Molding Compound	Carbon Black	1333-86-4		0.014	mg	2122	1400
Finishing	Other Inorganic Material	0.2	mg	Supplier	Connection coating	Sn	7440-31-5		0.2	mg	1000000	20000