

PART INFORMATION

Mfg Item Number	MCIMX31CVMN4C
Mfg Item Name	MAPBGA 473 19*19*.8P.8

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2014-11-11
Response Document ID	5365K11221D006A1.20
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
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Authorized Representative	Daniel Binyon
Representative Title	EPP Customer Response
Representative Phone	512-895-3406
Representative Email	eppanlst@freescale.com
URL for Additional Information	www.freescale.com

DECLARATION

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	

MANUFACTURING

Mfg Item Number	MCIMX31CVMN4C
Mfg Item Name	MAPBGA 473 19*19*.8P.8
Version	ALL
Weight	0.919400
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	260 C
Max Time at Peak Temperature	40 seconds
Number of Processing Cycles	3

RoHS	
RoHS Directive	2011/65/EU
RoHS Definition	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) of homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material of Cadmium
RoHS Legal Definition	Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2011/65/EU and implemented by the laws of the European Union member states) of the part(s) identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a RoHS restricted substance) in excess of the applicable quantity limit identified below. If a homogeneous material within the part(s) contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that 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 with European Union member state laws that implement the RoHS Directive. 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 Suppliers liability and the Companys remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Suppliers Standard Terms and Conditions of Sale applicable to such part(s) shall apply.
RoHS Declaration	1 - Item(s) do not contain RoHS restricted substances per the definition above
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemption List Version	2012/51/EU
List of Freescale Accepted Exemptions	<p>6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight</p> <p>6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight</p> <p>6(c) : Copper alloy containing up to 4% lead by weight</p> <p>7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)</p> <p>7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications</p> <p>7(c)-I : 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</p> <p>7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher</p> <p>7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC</p> <p>7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors</p> <p>15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages</p>

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Non-Conductive Epoxy/Adhesive	0.0038						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.000285	g	75000	7.5	309	0.0309
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.00076	g	200000	20	826	0.0826
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.000285	g	75000	7.5	309	0.0309
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.00076	g	200000	20	826	0.0826
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.00171	g	450000	45	1859	0.1859
Solder Balls - Lead Free	0.122						g				
Solder Balls - Lead Free		Metals	Aluminum, metal	7429-90-5		0.0000061	g	5	0.0005	0	0
Solder Balls - Lead Free		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.0000988	g	81	0.0081	10	0.01
Solder Balls - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.0000464	g	38	0.0038	5	0.0005
Solder Balls - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.0000476	g	39	0.0039	5	0.0005
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00061952	g	6078	0.5078	673	0.0673
Solder Balls - Lead Free		Solvents, additives, and other materials	Phosphorus	7723-14-0		0.0000488	g	40	0.004	5	0.0005
Solder Balls - Lead Free		Metals	Iron, metal	7439-89-6		0.0000415	g	34	0.0034	4	0.0004
Solder Balls - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.00002733	g	224	0.0224	29	0.0029
Solder Balls - Lead Free		Nickel (external applications only)	Nickel	7440-02-0		0.0000476	g	39	0.0039	5	0.0005
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00110154	g	9029	0.9029	1198	0.1198
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.12020903	g	985320	98.532	130747	13.0747
Solder Balls - Lead Free		Metals	Zinc, metal	7440-66-6		0.00000073	g	6	0.0006	0	0
Solder Balls - Lead Free		Metals	Germanium	7440-56-4		0.00000817	g	67	0.0067	8	0.0008
Organic Substrate, Halogen-free	0.2448						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.0062424	g	25500	2.55	6789	0.6789
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.04842144	g	197800	19.78	52666	5.2666
Organic Substrate, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.0083844	g	34250	3.425	9119	0.9119
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00065484	g	2675	0.2675	712	0.0712
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.00470016	g	19200	1.92	5112	0.5112
Organic Substrate, Halogen-free		Plastics/polymers	Other polymers	-		0.00099756	g	4075	0.4075	1085	0.1085
Organic Substrate, Halogen-free		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.099144	g	405000	40.5	107835	10.7835
Organic Substrate, Halogen-free		Plastics/polymers	Other Non-halogenated Epoxy resins	-		0.0762552	g	311500	31.15	82940	8.294
Silicon Semiconductor Die	0.0239						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000478	g	20000	2	519	0.0519
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.023422	g	980000	98	25475	2.5475
Die Encapsulant	0.5163						g				
Die Encapsulant		Plastics/polymers	Other Epoxy resins	-		0.030978	g	60000	6	33693	3.3693
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.005163	g	10000	1	5615	0.5615
Die Encapsulant		Solvents, additives, and other materials	Other inorganic compounds	-		0.010326	g	20000	2	11231	1.1231
Die Encapsulant		Plastics/polymers	Other phenolic resins	-		0.025815	g	50000	5	28078	2.8078
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.444018	g	860000	86	482960	48.296
Bonding Wire, PoCu	0.0086						g				
Bonding Wire, PoCu		Metals	Copper, metal	7440-50-8		0.00849678	g	987998	98.7998	9241	0.9241
Bonding Wire, PoCu		Metals	Palladium, metal	7440-05-3		0.00010322	g	12002	1.2002	112	0.0112

LINKS

MCD LINK

Freescale website <http://www.freescale.com>

GENERAL ENVIRONMENTAL COMPLIANCE LINKS

RoHS signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ROHS_Freescale_Response.pdf

China RoHS <http://www.freescale.com/chinarohs>

REACH signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_REACH_Freescale_Response.pdf

ELV signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ELV_Freescale_Reponse.pdf

Conflict Minerals statement http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_CONFLICT_METAL_Freescale_Response.pdf

FREESCALE ENVIRONMENTAL INFORMATION

EPP website <http://www.freescale.com/epp>

FAQ http://www.freescale.com/webapp/sps/site/overview.jsp?code=ENVIRON_FAQ

Technical Service Request [https://www.freescale.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod](https://www.freescale.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware+Product+Support&defaultTopic=Environmentally+Preferred+Prod)

LINKS TO BLANK IPC1752 FORMS

Blank IPC1752 v1.1 Form http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf

IPC1752 XML LINKS

http://www.freescale.com/mcdfs/MCIMX31CVMN4C_IPC1752_v11.xml

http://www.freescale.com/mcdfs/MCIMX31CVMN4C_IPC1752A.xml