

		Material Composition Declaration Copyright 2005. IPC, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions.		This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.						
1752-2 1.1		IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x		Form Type * Distribute		Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information				
Supplier Information										
Company Name * National Semiconductor		Company Unique ID NATSEMI		Unique ID Authority 04-147-2986		Response Date * 01-18-2012		Response Document ID		
Contact Name * Lorena Dudman		Title - Contact Product Stewardship Eng.		Phone - Contact * 1-408-721-8180		Email - Contact * Green.Project@nsc.com				
Authorized Representative * Lorena Dudman		Title - Representative Product Stewardship Eng.		Phone - Representative * 1-408-721-8180		Email - Representative * Green.Project@nsc.com		Supplier Comments or URL for Additional Information http://www.national.com/analog/quality/green		
	Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight *	UOM	Unit Type	
		LM311H	LM311H	01-18-2012			971.01	mg	Each	
	Alternate Recommendation				Alternate Item Comments					
Manufacturing Process Information										
Terminal Plating / Grid Array Material SnPb		Terminal Base Alloy Kovar		J-STD-020 MSL Rating 1		Peak Process Body Temperature NA C		Max Time at Peak Temperature NA seconds		Number of Reflow Cycles NA
Comments "Does not contain PFOS."										

RoHS Material Type Declaration		Declaration Type * Custom	
RoHS Directive 2002/95/EC	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in 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 for Cadmium		
<p>Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.</p> <ol style="list-style-type: none"> 1. National products designated "ROHS Compliant" comply with the European Unions Directive on the Restriction of the Use of Hazardous Substances 2002/95/EC ("RoHS"). Certain National products contain lead in RoHS exempt applications 7(a) or 7(c)-I. 2. National products do not contain and are not manufactured with ozone depleting compounds. 3. National products do not contain substances identified by the European Chemical Agency ("ECHA") as substances of very high concern ("SVHC") per REACH Regulation (EC) No 1907/2006. National also complies with use restrictions as stipulated in Annex XVII of REACH. 4. National products are manufactured in conformance with National specifications (SC)CSP-9-111C1 Supplier Environmental Requirements for Materials and Products and (SC)CSP-9-111S2 Banned and Reportable Substances. 5. National's list of banned and reportable substances and management system is based on the current version of the Joint Industrial Guide, JIG-101. <p>National has taken commercially reasonable steps to provide representative and accurate information but may not have independently verified information provided or conducted chemical analysis of incoming materials. Equivalent compliant materials may have been substituted for those stated herein. Material concentrations are the maximum expected concentration of the substance in the device and may not represent the actual concentration. National and its suppliers consider certain limited information to be confidential and thus CAS numbers and other limited information may not be available for release. National's Standard Terms and Conditions of Sale apply to any issue arising out of or in connection with the information provided herein unless otherwise provided by a written contract signed by both parties.</p> <p>NATIONAL ACCEPTS NO DUTY TO NOTIFY USERS OF THIS DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION</p>			
RoHS Declaration *	2 - Item(s) contains RoHS restricted substances per the definition above and is not under exemption	Supplier Acceptance *	Accepted
<p>Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration and above and choose all applicable exemptions.</p> <p>7(a). Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead)</p>			
Declaration Signature			
Supplier Signature	 John L. Conn Vice President Quality		
	John L. Conn Vice President Quality		

Homogeneous Material Composition Declaration for Electronic Products

Item/SubItem Name	Homogeneous Material	Weight	Unit of Measure	Level	Substance Category	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance	PPM
	Ext. LeadFinish	9.030	mg	Requester		Sn	7440-31-5		5.689	mg		630,000
				Requester		Pb	7439-92-1		3.341	mg		370,000
	Stand-off	61.000	mg	Requester		Al2O3	1344-28-1		61.000	mg		1,000,000
	Lid	309.500	mg	Requester		Ni	7440-02-0		309.500	mg		1,000,000
	Eyelet	266.000	mg	Requester		Fe	7439-89-6		143.640	mg		540,000
				Requester		Ni	7440-02-0		77.140	mg		290,000
				Requester		Co	7440-48-4		45.220	mg		170,000
	Leads	178.800	mg	Requester		Fe	7439-89-6		96.552	mg		540,000
				Requester		Ni	7440-02-0		51.852	mg		290,000
				Requester		Co	7440-48-4		30.396	mg		170,000
	Glass	132.000	mg	Requester		SiO2	60676-86-0		106.392	mg		806,000
				Requester		B2O3	1303-86-2		17.160	mg		130,000
				Requester		Na2O	12401-86-4		5.280	mg		40,000
				Requester		Al2O3	1344-28-1		3.168	mg		24,000
	Plating1	10.400	mg	Requester		Ni	7440-02-0		10.400	mg		1,000,000
	Plating2	1.900	mg	Requester		Au	7440-57-5		1.900	mg		1,000,000
	Chip	1.350	mg	Requester		Si	7440-21-3		1.342	mg		994,000
				Requester		Al	7429-90-5		0.008	mg		6,000
	Die Attach	1.010	mg	Requester		Au	7440-57-5		0.990	mg		980,000
				Requester		Si	7440-21-3		0.020	mg		20,000
	Wires	0.017	mg	Requester		Al	7429-90-5		0.017	mg		1,000,000