

Company		DUNS#	URL For Additional Information
National Semiconductor		04-147-2986	http://www.national.com/analog/quality/green

Contact	Title	Phone	Email
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Part Number	MSL Rating	Peak Body Temp C	MaxTime(Sec)	Cycles	Unit Type
LP3990YDX-1.5 AULF	1	260	40	4	Each

Document Date	European RoHS Compliant. China RoHS Compliant.	Weight (mg)	Does NOT Contain Halogens
07-07-2011		24.24	

Material Composition Declaration for Electronic Products

Item	Weight (mg)	Component	CAS#	Weight (mg)	Item-ppm	Part-ppm
Leadframe	8.112	Cu	7440-50-8	7.905	974,500	326,141
		Fe	7439-89-6	0.195	24,000	8,045
		Zn	7440-66-6	0.010	1,200	413
		P	7723-14-0	0.002	300	83
Plastic	13.010	SiO2	60676-86-0	11.774	905,000	485,766
		Epoxy Resin	25928-94-3	1.236	95,000	50,994
Bumps	1.549	Sn	7440-31-5	1.495	965,000	61,680
		Ag	7440-22-4	0.046	30,000	1,898
		Cu	7440-50-8	0.008	5,000	330
Chip	0.706	Si	7440-21-3	0.702	994,000	28,963
		Al	7429-90-5	0.004	6,000	165
Ext. LeadFinish	0.373	Sn	7440-31-5	0.373	1,000,000	15,389
Die Attach	0.256	Ag	7440-22-4	0.192	750,000	7,921
		Epoxy Resin	25928-94-3	0.064	250,000	2,640
Wires	0.126	Au or Cu	7440-57-5	0.126	1,000,000	5,198
Int. LeadFinish	0.106	Ag	7440-22-4	0.106	1,000,000	4,373

Note: The device content disclosed herewith is approximate and is based on engineering estimates only. It has not been verified through analytical testing.

Additionally, the following should be noted:

- One or more dopant materials may be present in the silicon die at sub-ppm levels to provide semiconductor properties.
- Epoxy resin components listed are generic and may or may not be the specific compound used, which is considered proprietary.

RoHS Material Composition Declaration

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
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Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.

- 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 7a or 7(c)-1.
- National products do not contain and are not manufactured with ozone depleting compounds.
- 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.
- 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.
- National's list of banned and reportable substances and management system is based on the current version of the Joint Industrial Guide, JIG-101.

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. Nationals 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.

NATIONAL ACCEPTS NO DUTY TO NOTIFY USERS OF THIS DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION.


John L. Conn
Vice President Quality

John L. Conn
Vice President Quality

Banned Substance Monitoring

Part Number	Document Date
LP3990YDX-1.5 AULF	07-07-2011

European RoHS Compliant.

China RoHS Compliant.

Item#	Material	Cd	CrVI	Pb	Hg	PBB	PBDE	Cl	Br	Ref#
1	CHIP	<1	<1	<1	<30	<10	<10	<75	<50	1000
2	COMPOUND	<2	<2	<2	<2	<5	<5	<50	<50	643
3	EPOXY	<2	<2	<2	<2	<5	<5	<50	<50	639
4	EXTLF	<2	N/D	23	<2	<5	<5	<50	<50	595
5	FRAME	<2	N/D	7	<2	<5	<5	N/A	N/A	88
6	WIRE	<2	N/D	<2	<2	<5	<5	N/A	N/A	75

* Cd: Cadmium, CrVI: Hexavalent Chromium, Pb: Lead, Hg: Mercury, NA: Not Applicable

* Unless otherwise noted, units are in PPM (parts-per-million)

Ref#	3rd Party Analysis (available upon request, subject to a non-disclosure agreement)
1000	Analysis on 01/24/2011 by Balazs as per Report# 11-00322-00
643	Analysis on 04/29/2011 by SGS per Report# LPCI/04385(B)/11
639	Analysis on 04/29/2011 by SGS per Report# LPCI/04438(B)/11
595	Analysis on 04/29/2011 by SGS per Report# LPCI/04369(B)/11
88	Analysis on 04/29/2011 by SGS per Report# LPCI/04330(B)/11
75	Analysis on 04/29/2011 by SGS per Report# LPCI/04464(B)/11