

Supplier Name: Texas Instruments Inc. (DUNS# 00-732-1904)
Contact Info: ti.com/support
Form/Declaration Type: Distribute - RoHS and IEC 62474 DB
Created on: 05/06/2022

Details for "LP324N"

Current Product Information

TI part number	Lead finish/Ball material	MSL rating/peak reflow	Assembly site	Package Pins	Package body size (mm)	Total device mass (mg)*
LP324N	NIPDAU	Level-NC-NC-NC	TI AGUASCALIENTES	N 14	6.35x19.3x4.57	1620.4

*Total Device Mass
The summary mass is a rounded value and will be within approximately +/- 10% of the detailed mass value.

Environmental Ratings Information

RoHS	REACH	Green	IEC 62474 DB
Yes	Yes	Yes	Yes

Component Information

				Homogeneous Material Level		Component Level	
Component	Substance	CAS Number	Amount (mg)	Percentage %	ppm	Percentage %	ppm
Bond Wire							
Copper and Its Alloys	Copper	7440-50-8	0.065213	99.998467	999985	0.004025	40
Precious Metals	Silver	7440-22-4	0.000001	0.001533	15	0	0
Sub-Total			0.065214	100	1000000	0.004025	40
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.339568	78.999984	790000	0.020956	210
Thermoplastics	Epoxy	85954-11-6	0.090265	21.000016	210000	0.005571	56
Sub-Total			0.429833	100	1000000	0.026527	265
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	398.878688	97.585	975850	24.616399	246164
Copper and Its Alloys	Iron	7439-89-6	9.40125	2.3	23000	0.580189	5802
Copper and Its Alloys	Phosphorus	7723-14-0	0.061313	0.015	150	0.003784	38
Zinc and Its Alloys	Zinc	7440-66-6	0.40875	0.1	1000	0.025226	252
Sub-Total			408.750001	100	1000000	25.225597	252256
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.304384	95.12	951200	0.018785	188
Precious Metals	Gold	7440-57-5	0.002496	0.78	7800	0.000154	2
Precious Metals	Palladium	7440-05-3	0.01312	4.1	41000	0.00081	8
Sub-Total			0.32	100	1000000	0.019748	197
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	1064.13978	88	880000	65.672322	656723
Other Plastics and Rubber	Carbon Black	1333-86-4	3.627749	0.3	3000	0.223883	2239
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	6.650874	0.55	5500	0.410452	4105
Thermoplastics	Epoxy	85954-11-6	134.831347	11.15	111500	8.320982	83210
Sub-Total			1209.24975	100	1000000	74.627638	746276
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	1.563092	100	1000000	0.096465	965
Sub-Total			1.563092	100	1000000	0.096465	965
Total			1620.37789			100	1000000

Important Note
The ppm calculations are at the **homogeneous material** level and are maximum concentration values. The ppm displayed represents the **homogeneous material** with the highest ppm for that substance. The amount (mg) calculations represent the maximum total amount of each substance within the component.
The ppm calculations are at the **component** level and are average concentration values. The amount (mg) calculations represent the average total amount of each substance within the **component**.
[See Glossary of Terms for more details.](#)

Important Part Information
There is a remote possibility the Customer Part Number (CPN) your company uses could reference more than one TI part number. This is due to two or more users (EMSIs or subcontractors) using the same CPN for different TI part numbers. If this occurs, please check your Customer Part Number and cross reference it with the TI part number seen on this page.

Product Content Methodology
[For an explanation of the methods used to determine material weights, See Product Content Methodology](#)

Material Declaration Certificate for Semiconductor IC Packaged Products
TI certifies that the material content information provided by TI is representative and accurate to the best of their knowledge based on material information provided by its suppliers and their combination into finished IC packaged products. TI semiconductor products designated to be "Pb-free", "Green" or "RoHS Exempt" fully meets the latest EU RoHS Directive requirements along with other legislation as seen in the former JIG-101 list that has been transferred to the IEC 62474 database.

Important Information/Disclaimer
TI bases its material content information on information provided by third-party suppliers and has taken, and continues to take, reasonably diligent steps to provide any required or available information. TI may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers may consider certain information to be proprietary, and thus certain information may not be available for release by TI. The material content information is provided by TI "as is."
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[Signature: \(click here for a fuller statement with a signed certificate\)](#)

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For further environmental statements, please go to www.ti.com/ecoinfo
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RoHS: Means TI semiconductor products that are compliant with the current RoHS requirement that the maximum concentration values of the ten substances listed in RoHS Annex II do not exceed 0.1 % by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI semiconductor products labeled as "RoHS Compliant" are suitable for use in specified lead-free processes. TI may also reference these types of semiconductor products as "Pb-Free." These TI semiconductor products are also fully compliant with GADSL and the IEC 62474 database for electronic requirements.

RoHS Exempt: Means TI semiconductor products that contain lead (Pb) above the RoHS Annex II threshold, but that fall within one of the specific RoHS exemptions noted above or documented in <http://www.ti.com/lit/pdf/szzq088>

Green: Means the content of Chlorine (Cl) and Bromine (Br)-based flame retardants meet JS709B low halogen requirements of <=1 000ppm threshold; Antimony trioxide (Sb2O3) contained in halogen based flame retardant materials meets the <=1 000ppm threshold requirement; and Beryllium Oxide (BeO) is <=1000ppm.