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: **06/08/2022**

Details for "TL431BIDBVTG4"

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)*
TL431BIDBVTG4	NIPDAU	Level-1-260C-UNLIM	Ext-Mfg	DBV | 5	2.9x1.6x1.45	18

***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							
Precious Metals	Gold	7440-57-5	0.023367	100	1000000	0.129738	1297
Sub-Total			**0.023367**	**100**	**1000000**	**0.129738**	**1297**
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.118931	79.999865	799999	0.660329	6603
Thermoplastics	Epoxy	85954-11-6	0.029733	20.000135	200001	0.165084	1651
Sub-Total			**0.148664**	**100**	**1000000**	**0.825413**	**8254**
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	6.290748	97.38	973800	34.927512	349275
Copper and Its Alloys	Iron	7439-89-6	0.153748	2.38	23800	0.85364	8536
Copper and Its Alloys	Phosphorus	7723-14-0	0.005426	0.083994	840	0.030126	301
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.001938	0.03	300	0.01076	108
Zinc and Its Alloys	Zinc	7440-66-6	0.00814	0.126006	1260	0.045195	452
Sub-Total			**6.46**	**100**	**1000000**	**35.867233**	**358672**
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.110339	95.119828	951198	0.612625	6126
Precious Metals	Gold	7440-57-5	0.000905	0.780172	7802	0.005025	50
Precious Metals	Palladium	7440-05-3	0.004756	4.1	41000	0.026406	264
Sub-Total			**0.116**	**100**	**1000000**	**0.644056**	**6441**
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	9.299206	84.999995	850000	51.631082	516311
Other Plastics and Rubber	Carbon Black	1333-86-4	0.032821	0.300002	3000	0.182229	1822
Thermoplastics	Epoxy	85954-11-6	1.608216	14.700003	147000	8.929142	89291
Sub-Total			**10.940243**	**100**	**1000000**	**60.742453**	**607425**
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	0.322594	100	1000000	1.791107	17911
Sub-Total			**0.322594**	**100**	**1000000**	**1.791107**	**17911**
Total			18.010868			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.

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For additional information, please contact TI customer support.

Signature: (click here for a fuller statement with a signed certificate)

Name/Title: Hubie Payne, Vice President, Worldwide SC Quality
For further environmental statements, please go to www.ti.com/ecoinfo
Created on: 06/08/2022

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 (Sb203) contained in halogen based flame retardant materials meets the <=1 000ppm threshold requirement; and Beryllium Oxide (BeO) is <=1000ppm.