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: **05/20/2022**

Details for "TLV431BQDBZR"

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)*
TLV431BQDBZR	NIPDAU	Level-1-260C-UNLIM	Ext-Mfg	DBZ | 3	2.9x1.3x0.95	10.8

***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							
Not Categorized	Proprietary Materials		0.000001	0.005644	56	0.000009	0
Precious Metals	Gold	7440-57-5	0.017717	99.994356	999944	0.163423	1634
Sub-Total			**0.017718**	**100**	**1000000**	**0.163432**	**1634**
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.103259	72.999837	729998	0.952467	9525
Thermoplastics	Epoxy	85954-11-6	0.038192	27.000163	270002	0.352285	3523
Sub-Total			**0.141451**	**100**	**1000000**	**1.304752**	**13048**
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	4.290528	97.512	975120	39.576062	395761
Copper and Its Alloys	Iron	7439-89-6	0.1012	2.3	23000	0.933474	9335
Copper and Its Alloys	Phosphorus	7723-14-0	0.00352	0.08	800	0.032469	325
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.000352	0.008	80	0.003247	32
Zinc and Its Alloys	Zinc	7440-66-6	0.0044	0.1	1000	0.040586	406
Sub-Total			**4.4**	**100**	**1000000**	**40.585838**	**405858**
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.09512	95.12	951200	0.877392	8774
Precious Metals	Gold	7440-57-5	0.00078	0.78	7800	0.007195	72
Precious Metals	Palladium	7440-05-3	0.0041	4.1	41000	0.037819	378
Sub-Total			**0.1**	**100**	**1000000**	**0.922405**	**9224**
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	4.941303	86.995001	869950	45.578846	455788
Other Plastics and Rubber	Carbon Black	1333-86-4	0.0284	0.500001	5000	0.261963	2620
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.000284	0.005	50	0.00262	26
Thermoplastics	Epoxy	85954-11-6	0.709998	12.499998	125000	6.54906	65491
Sub-Total			**5.679985**	**100**	**1000000**	**52.392489**	**523925**
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	0.502066	100	1000000	4.631084	46311
Sub-Total			**0.502066**	**100**	**1000000**	**4.631084**	**46311**
Total			10.84122			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: 05/20/2022

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.

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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.