

RoHS & Material Declaration Certificate for Semiconductor Products

TI certifies to the best of its knowledge that TI's semiconductor products designated as "RoHS", "RoHS Exempt" or "Green" (defined below):

- Are compliant with the threshold requirements of the European Union's Restriction on Use of Hazardous Substances Directive, 2002/95/EC ("RoHS1"), as well as the recast Directive 2011/65/EU ("RoHS 2") and four phthalates within (EU) 2015/863. TI requires raw material suppliers to provide products that do not contain the four phthalates of concern. As further due diligence, TI now requires suppliers to provide analytical data for the new phthalates in addition to the current RoHS 6 substances. This data will be available by early 2018, which is well ahead of the 2015/863 July 2019 implementation compliance date.
- Do not exceed IEC 62474 dB (formerly the Joint Industry Guide ("JIG-101")) and the Global Automotive Declarable Substance List (GADSL) for regulated substance thresholds
- Meet the China Management Methods for controlling Pollution by Electronic Information Products ("China RoHS").
- Do not contain any of the Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH") substances of very high concern (SVHC) above the regulatory threshold of 0.1% at the Article 33 level. (See [TI_REACH_Statement.pdf](#) for the latest TI REACH document)

TI defines "RoHS", "RoHS Exempt" and "Green" products as follows:

- **RoHS:** TI defines "RoHS Compliant" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substances do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free". These products are also fully compliant to GADSL and IEC 62474 database for electronic requirements.
- **RoHS Exempt:** TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.
- **Green:** TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of ≤ 1000 ppm threshold. Antimony trioxide contained in halogen based flame retardant materials must also meet the ≤ 1000 ppm threshold requirement. It includes BeO to be ≤ 1000 ppm.

Note: *Proprietary materials must be in full compliance to known regulatory requirements as well*

TI semiconductor products *not* designated as "RoHS" or "Green" complies with EU RoHS and China RoHS for all substances except Lead (Pb), which may be found in the leadframe plating or solder balls, or in one of the RoHS exempt applications, 7(a), 7(c)-I, 7(c)-IV or 15. For semiconductor products containing lead, the China RoHS EFUP is 50 years (www.ti.com/leadfree).

TI's position is that its semiconductor products are considered "components" under EU RoHS definition. Therefore, the CE marking, EU declaration of conformity, and internal product control provisions stipulated in Article 7 of RoHS 2 do not apply.

Evaluation modules (EVMs): TI's EVMs are "equipment specifically designed solely for the purposes of research and development only made available on a business-to-business basis" and, per Article 2(4)(j) of RoHS 2, are not subject to RoHS 2.

To the best of TI's knowledge, its packing materials (boxes, trays, etc) comply with EU Directive 2013/2/EU for Packaging and Packaging Waste Material.

Signature: _____



Name/Title: Robert Furtaw, Vice President, Worldwide Quality

Date: _____

03/10/2017

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