

Material Declaration Certificate for Semiconductor Products

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

- Do not exceed Joint Industry Guide ("JIG") Ed 4.1 Regulated Substance thresholds.
- 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").
- Meet the China Management Methods for controlling Pollution by Electronic Information Products ("China RoHS").
- Do not contain any of the **R**egistration, **E**valuation, **A**uthorization and Restriction of **C**hemicals ("REACH") substances of very high concern (SVHC) above the regulatory threshold of 0.1%, including lists released through Dec 2011. (see http://focus.ti.com/en/download/qlty/TI_REACH_Statement.pdf for full REACH statement)

TI defines its "Pb-free", "RoHS Exempt" and "Green" products as follows:

Pb-Free: TI defines "Pb-Free" or "RoHS Compliant" to mean semiconductor products that are compliant with the current RoHS 1 and RoHS 2 requirements for all 6 RoHS substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI "Pb-Free" and "RoHS Compliant" products are suitable for use in specified lead-free processes.

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with RoHS pursuant to an exemption.

Green: TI defines "Green" to mean Pb-Free/RoHS Compliant and free of Chlorine (Cl), Bromine (Br) and Antimony trioxide based flame retardants. Thresholds for brominated flame retardants (BFRs) and chlorinated flame retardants (CFRs) must meet the ≤ 900 ppm each and ≤ 1500 ppm sum of both. Antimony trioxide must meet the 1000ppm threshold requirement.

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

TI semiconductor products NOT designated as "Pb-Free" or "Green" comply with RoHS 1 and RoHS 2 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, 5(a), 7(a), 7(c)-I 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 RoHS 1 & RoHS 2. 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 2004/12/EC for Packaging and Packaging Waste Material.

TI bases its material content knowledge on information provided by third parties and has taken and continues to take commercially reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain limited information to be proprietary, and thus CAS numbers and other limited information may not be available for release. TI's standard warranty and limitation of liability provisions of TI's Standard Terms and Conditions (available at <http://www.ti.com/sc/docs/stdterms.htm>) apply to the representations herein unless otherwise provided by a written contract or other agreement signed by the parties.

Signature: Kyle Flessner

Name/Title: Kyle Flessner, Vice President, Worldwide Quality

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