

JOINT JEDEC/ECA STANDARD

Definition of “Low-Halogen” For Electronic Products

JS709B

(Revision of JS709A, May 2012)

APRIL 2015

JEDEC SOLID STATE TECHNOLOGY ASSOCIATION
ELECTRONIC COMPONENTS ASSOCIATION



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Published by
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Suite 240 South
Arlington, VA 22201-2107

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DEFINITION OF “LOW-HALOGEN” FOR ELECTRONIC PRODUCTS

Foreword

The term “low-halogen” is currently not well defined, nor is it mandated as a requirement by any legislation worldwide at the time of this standard. Nevertheless, to ensure a uniform and consistent understanding throughout the industry of the meaning of “low-halogen”, this term needs to be clearly defined as it pertains to materials within electronic products. In this standard, the term “low-halogen” is defined in Clause 4 and is used to identify materials within electronic products that contain low concentrations of bromine and chlorine from brominated and chlorinated flame retardants (BFRs, CFRs) and polyvinyl chloride (PVC). Should one choose to implement a “low-halogen” technology, this standard shall be utilized to identify the industry accepted definition, targeted materials, and systems requirements.

Introduction

Halogenated polymeric materials and compounds are used in various engineering applications, including flame retardation. Several decades of use have proven these materials and compounds to be reliable and cost-effective. The electronic industry seeks to reduce the overall environmental impact of our products by working to develop reliable and cost-effective alternatives to these materials and compounds. However, the timetable for broad-scale adoption of low-halogen materials is difficult to predict, because applications such as complex multilayer PCBs and large molded integrated circuits will require further investigation and qualification of new materials.

The halogen group contains fluorine, chlorine, bromine, iodine, and astatine; however, this document will use the term “low-halogen” to refer only to bromine and chlorine to be consistent with the International Electrotechnical Commission (IEC) and IPC definitions of “halogen-free” (see 2.4). Refer to Annex C for further explanation for exclusion of astatine, iodine and fluorine. In this document, the term “low-halogen” is used to identify a material that contains low concentrations of bromine and chlorine from brominated and chlorinated flame retardants (BFRs, CFRs) and polyvinyl chloride (PVC).