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ENVIRONMENTAL ASSESSMENT

LG Electronics, Inc.
Food Contact Notification 002520

1. Date May 20, 2026*

2. Name of Applicant/Notifier LG Electronics, Inc.

3. Address

128 Yeoui-daero, Yeongdeungpo-gu
Seoul, Republic of Korea, 07336

All communications concerning this matter are to be sent to the care of the agent for the Notifier:

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4. Description of the Proposed Action

a. Requested Action

The action identified in this food contact notification (FCN) 002520 is to provide for the use of the food contact substance (FCS) identified as zinc silicate sodium calcium potassium borate glass. The FCS is intended for use as an antimicrobial agent (materials preservative) in all food contact polymers, except for use in contact with infant formula and human milk.

The finished polymers and polymeric coatings containing the FCS may contact all food types under all Conditions of Use (COU) A through H, as described in Tables 1 and 2 in 21 C.F.R. § 176.170.

The maximum use level for the FCS in polymers and polymeric coatings is 3% by weight. The FCS is not for use in contact with infant formula and human milk. Such uses were not included as part of the intended use of the substance in the FCN.

* Subsequent to this date, this EA was edited using the Adobe text editor tool to make several minor corrections of an editorial nature.

b. Need for Action

The FCS is used as a component of finished food contact polymers. The FCS can be used as an antimicrobial additive mainly to protect the treated food contact material from contamination. The food contact materials include all polymers used in food contact applications.

c. Locations of Use/Disposal

The Notifier does not intend to produce finished food contact materials from the FCS. Rather, the FCS will be sold to manufacturers engaged in the production of food contact materials. Food contact materials containing the FCS will be utilized in patterns corresponding to the national population density and will be widely distributed across the country. Therefore, it is anticipated that disposal of the subject resin will occur nationwide, with the material being land disposed, combusted, or recycled. According to the U.S. Environmental Protection Agency's latest update regarding municipal solid waste in the United States[1], of the total of 292.4 million tons of municipal solid waste (MSW) generated in 2018, approximately 146 million tons (50.0%) generally was land disposed, 35 million tons (11.8%) was combusted, 69 million tons (23.6%) was recycled and 25 million tons (8.5%) were composted. In addition, the remainder of the waste was managed by other methods such as: animal feed, bio-based materials/biochemical processing, co-digestion/anaerobic digestion, donation, land application and sewer / wastewater treatment.

The types of environments present at and adjacent to these disposal locations are the same as for the disposal of any other food-contact material in current use. Consequently, there are no special circumstances regarding the environment surrounding either the use or disposal of food-contact materials prepared from the FCS.

5. Identification of Substance that is the Subject of the Proposed Action

The FCS that is the subject of this Notification is: zinc silicate sodium calcium potassium borate glass

6. Introduction of Substances into the Environment

a. Introduction of Substances into the Environment as a Result of Manufacture

Under 21 C.F.R. § 25.40(a), an environmental assessment ordinarily should focus on relevant environmental issues relating to the use and disposal from use, rather than the production of, FDA-regulated materials. Moreover, information available to the Notifier does not suggest that there are any extraordinary circumstances in this case indicative of any adverse environmental impact as a result of the manufacture of the FCS. Consequently, information on the manufacturing site and compliance with relevant emissions requirements is not provided here.

[1] EPA: National Overview: Facts and Figures on Materials, Wastes and Recycling

No environmental release is expected upon the use of the subject FCS to fabricate food-contact materials. In these applications, the FCS is expected to be used as a component of packaging used in contact with food, and the FCS will be entirely incorporated into the finished packaging. Any waste materials generated in this process, e.g., plant scraps, are expected to be disposed of as part of the food-contact article manufacturer's overall nonhazardous solid waste in accordance with established procedures.

b. Introduction of Substances into the Environment as a Result of Use/Disposal

Disposal by the ultimate consumer of the food packaging produced with the subject FCS will be by conventional rubbish disposal and, hence, primarily by recycling, sanitary landfill, or incineration.

The FCS exists as an inorganic matrix. The FCS is not combustible; thus, no airborne emission products are expected to be released into the environment as a result of incineration of the materials manufactured with the FCS. Since the FCS does not contain constituents that may generate greenhouse gases (GHGs) when incinerated at municipal solid waste (MSW) combustion facilities, there is no need to provide a GHG analysis. Furthermore, because the FCS will make up a very small portion of the total municipal solid waste currently combusted, it will not significantly alter the emissions from properly operating municipal solid waste combustors, and therefore not threaten a violation of applicable emissions laws and regulations (i.e., 40 CFR Part 60 and/or relevant state and local laws).

Only extremely small amounts, if any, of the FCS's constituents are expected to enter the environment as a result of the landfill disposal of food contact materials, considering the Environmental Protection Agency's (EPA) regulations governing municipal solid waste landfills[2]. EPA's regulations require new municipal solid-waste landfill units and lateral expansions of existing units to have composite liners and leachate collection systems to prevent leachate from entering ground and surface water, and to have groundwater monitoring systems. As the FCS is insoluble, there is assumed to be no migration of the FCS from polymers in which it is used. Therefore, there is no expectation that the FCS will enter the environment in meaningful quantities.

Further, the use of the FCS is not anticipated to significantly affect concentrations of or exposure to any substances in aquatic ecosystems. Proper incineration or landfill disposal of the FCS will not add significant quantities of any substance to these water systems. Therefore, no extraordinary circumstances suggesting a significant environmental impact on the aqueous environment from the use or disposal of FCS-containing food contact articles are expected.

7. Fate of Emitted Substances in the Environment

a. Air

No significant effects on the concentrations of and exposures to any substances in the atmosphere are anticipated due to the proposed use of the FCS. The FCS does not volatilize during use. Thus, no significant quantities of any substances will be released upon the use and disposal of food contact materials containing the FCS. As stated above, the concentrations of these substances in the environment will not be significantly altered by the proper incineration of the FCS in the amounts utilized for food contact material applications.

[2] 40 C.F.R. Part 258

b. Water

No significant effects on the concentrations of and exposures to any substances in freshwater, estuarine, or marine ecosystems are anticipated due to the proposed use of the FCS as demonstrated by the solubility studies that have been carried out. No significant quantities of any substance will be added to these water systems either upon the proper incineration of the FCS nor upon its disposal in landfills due to the extremely low levels of aqueous migration due to its relative insolubility.

c. Land

Considering the factors discussed above, no significant effects on the concentrations of and exposures to any substances in terrestrial ecosystems are anticipated as a result of the proposed use of the FCS. In particular, the extremely low levels of maximum migration of components of the FCS, demonstrated by its insolubility, indicate that virtually no leaching of the components may be expected to occur under normal environmental conditions when finished food contact materials are disposed. Thus, there is no expectation of any meaningful exposure of terrestrial organisms to the FCS as a result of its proposed use.

8. Environmental Effects of Released Substances

As discussed previously, we do not expect the FCS to be released to the environment. Based on these considerations, no significant adverse effect on organisms in the environment is expected as a result of the disposal of materials containing the FCS.

9. Use of Resources and Energy

The notified use of the FCS will not require additional energy resources for the treatment and disposal of wastes as the FCS is expected to compete with, and to some degree replace similar substances already on the market. The manufacture of the FCS will consume comparable amounts of energy and resources as similar products, and the raw materials used in the production of the FCS are commercially manufactured materials that are produced for use in a variety of chemical reactions and processes. Thus, the energy used to produce the FCS is not significant. Because of the low levels of the FCS used and the general ubiquity of polymer additives in food-contact polymers, recycling of articles containing the FCS will not impact on current recycling programs.

10. Mitigation Measures

As discussed above, no significant adverse environmental impacts are expected to result from the use and disposal of food contact materials containing the FCS. This is primarily due to the minute levels of leaching of potential migrants from the finished material and the insignificant impact on environmental concentrations of combustion products of the FCS. Thus, the use of the FCS as proposed is not expected to result in significant impact to the environment.

11. Alternatives to the Proposed Action

No significant adverse environmental effects are identified herein that would necessitate alternative actions to that proposed in this Food Contact Notification. If the proposed action is not approved, the result would be the continued use of the currently marketed materials that the subject FCS would replace.

12. Preparer

Jonathan Walsh, Principal Consultant, Sagentia Regulatory, 1150 18th St., N.W., Suite 475, Washington, DC 20036,

13. Certification

The undersigned official certifies that the information provided herein is true, accurate, and complete to the best of his knowledge.

Date: May 21, 2026

Signed: 

Jonathan Walsh, Principal Consultant

14. Reference

a. U.S. Environmental Protection Agency (EPA). National Overview: Facts and Figures on Materials, Wastes and Recycling. Available at: https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials. Accessed May 20, 2026.