

Attachment 13 Environmental Assessment (Ver.3)

1. Date : August 8, 2016
2. Name of Applicant/Notifier : Asahi Kasei Corporation
3. Address : 1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, Japan
(All communication on this matter are to be sent to the US Technical Contact for the notifier, William A. Olson, Center for Regulatory Services, Inc., 5200 Wolf Run Shoals Road, Woodbridge, VA 22192-5755 (Telephone No. 703 590 7337))

4. Description of the Proposed Action

a. Proposed Action

The food contact substance is 2-Propenoic acid, 2-methyl-, polymer with ethenylbenzene and methyl 2-methyl-2-propenoate (CAS No. 25035-81-8) for use at maximum level up to 100% as a basic resin which is in contact with food of Food Type VIII under Use condition E and F.

This food contact substance has other chemical name that is also known as Styrene (St) - methyl Methacrylate (MMA) - Methacrylic acid (MAA) copolymer.

b. Need for Action

The notifier manufactures the food contact substance, having a minimum number average molecular weight (Mn) of 50,000 Daltons, in Japan.

This food contact substance is used as a film of packaging material for dry solid food (Food Type VIII) with the surface containing no free fat or oil.

c. Location of Use/Disposal

Since finished food contact articles made from the food contact substance (FCS) will be used widely in the US, the used packaging material will be distributed widely across the nation depending on the

population density of the United States.

Therefore, it is anticipated that disposal will occur nationwide.

According to the U.S. Environmental Protection Agency's (EPA) 2013 update regarding municipal solid waste in the United States, 52.8% of municipal solid waste generally was land disposed, 12.9% was incinerated, and 34.3% was recovered for recycling.¹⁾

The materials in which the FCS will be used are not expected to be collected for recycling to a significant extent. Excluding this means of disposal and assuming that all food contact articles made from the FCS are land disposed or combusted, it is estimated that approximately 80.4% of the materials will be deposited in landfills and about 19.6% will be combusted.

The types of environments present at and adjacent to the 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 articles prepared using the FCS.

5. Identification of substance that is the subject of the proposed action

The FCS that is the subject of this notification is 2-Propenoic acid, 2-methyl-, polymer with ethenylbenzene and methyl 2-methyl-2-propenoate (CAS No. 25035-81-8).

Chemical formula



Molecular weight

Weight average molecular weight (Mw): Maximum 220,000, Minimum 140,000

Number average molecular weight (Mw): Maximum 95,000, Minimum 50,000

1) United States Environmental Protection Agency, Advancing Sustainable Materials Management: Facts and Figures 2013, Assessing Trends in Material Generation, Recycling and Disposal in the United States, EPA 530-R-15-002, June 2015. Available at, <https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures-report>

6. Introduction of Substance into the Environment

a. Result of Manufacture and Use

The FCS is used as basic polymer for manufacturing packaging films.

And, finished packaging films are used as packaging materials for the dry solid foods which do not contain oils and fats on the surface.

However, since the FCS is manufactured in Japan, any environmental impacts due to manufacturing will not impact the United States environment.

Additionally, as the production facilities for this FCS are operated in compliance with the applicable Japanese environmental regulations, no environmental impact due to manufacturing is anticipated

Therefore, since the manufacture of FCS is conducted outside of the United States, the result of manufacture of FCS is outside of the scope of the EA.

b. Result of Disposal from Use

The disposal by the consumer of food contact articles made from this FCS will primarily be municipal solid waste (MSW) landfill subject to 40 CFR Part 258 or incinerated at MSW combustion facilities that comply with 40 CFR Part 60.

In light of EPA's regulations governing municipal solid waste landfills (40 CFR Part 258), only extremely small amounts, if any, of the FCS are expected to enter the environment as a result of the landfill disposal of food contact articles comprised of the FCS.

EPA's regulations require new MSW 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. Landfills also are required to have ground-water monitoring systems. (40 C.F.R. Part 258.)

Although owners and operators of existing municipal solid waste landfills that were constructed before October 9, 1993 are not required to retrofit liners and leachate collections systems, they are required to monitor groundwater and to take corrective action as appropriate.

The FCS is composed of carbon, hydrogen and oxygen. Thus, the products of complete combustion would be carbon dioxide and water. Based on the proposed use of the FCS and the expected market volume, which is discussed in a confidential attachment to this EA. The FCS will make up a very small portion of the total MSW currently combusted. Additionally, as the products of complete combustion are carbon dioxide and water, the FCS will not alter the emissions from properly operating MSW combustion facilities, nor cause MSW combustion facilities to threaten a violation of applicable Federal, State or local emissions laws and regulations at 40 CFR Part 60.

In Dec. 2014 the Council on Environmental Quality (CEQ) issued draft guidance to U.S. agencies regarding addressing greenhouse gas (GHG) emissions and climate change impacts in National Environmental Policy Act (NEPA) documents ²⁾. This guidance “recommends that agencies consider 25,000 metric tons of carbon dioxide equivalent (CO₂-e) emissions on an annual basis as a reference point below which a quantitative analysis of greenhouse gas emissions is not warranted.”

With respect to GHG emissions, we have considered that the combustion of MSW is the only potential source of GHG emissions arising from disposal of the FCS (which in the case of this FCS is carbon dioxide emissions, as the products of complete combustion are carbon dioxide and water).

Based on the confidential market volume (discussed in a confidential attachment to the EA), the expected carbon dioxide emission are below 25,000 Metric tons on an annual basis.

In accordance with the CEQ’s revised draft guidance on GHG and climate change impacts, for annual emissions falling below 25,000 metric tons, a quantitative analysis of carbon dioxide emissions is not warranted.

2) Council on Environmental Quality (CEQ). *Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change*. December 18, 2014.

https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

7. Fate of Substance released into the environment

7-1. Air

No significant effect on the concentrations of and exposures to any substances in the atmosphere are anticipated due to the proposed use of the FCS.

The FCS is a high molecular weight polymer and does not readily volatilize.

Thus, no significant quantities of any substances will be released upon the use and landfill disposal of food contact articles manufactured with the FCS.

Furthermore, disposal of the FCS at permitted MSW combustion facilities is not expected to cause MSW combustors to threaten a violation of applicable Federal, State or local emissions laws and regulations at 40 CFR Part 60.

7-2. Water

No significant effect on the concentrations of, and exposures to, any substances in fresh water, estuarine, or marine ecosystems are anticipated due to the proposed use of FCS.

FCS is a high molecular weight polymer, and the exposure of any substance which will be released into the aqueous environment water will be expected to be very small amounts as the results of proposed use and disposal.

Furthermore, if the FCS were to migrate from the discarded food contact articles (at landfills), the leachate will be prohibited from entering adjacent ecosystems by proper environmental controls in place at landfill sites (see discussion above regarding 40 CFR 258). Thus, there is little expectation of any meaningful exposure of aquatic organisms to these substances as a result of the proposed use

7-3. Land

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 and its proper disposal.

Furthermore, if the FCS were to migrate from the discarded food contact articles, the leachate will be prohibited from entering adjacent ecosystems by proper environmental controls in place at landfill sites (see discussion above regarding 40 CFR 258).

Thus, there is little expectation of any meaningful exposure of terrestrial organisms to these substances as a result of the proposed use

8. Environmental Effect of released substances

As mentioned above, given regulations that are protective of the environment for MSW landfills and MSW combustion facilities at 40 CFR Parts 258 and 60, respectively, the FCS is not expected to be released to the environment.

9. Use of resources and energy

The use of the FCS is not expected to result in an increase in the use of energy and resources, since the FCS is intended to replace other packaging materials, such as polyolefin or PET, sourced from similar materials.

10. Mitigation measures

As shown above, the use of the FCS is not expected to generate any environmental impact that requires mitigation measures.

11 Alternative to the proposed action

No potential adverse environmental effects are identified herein that would necessitate alternative actions to those proposed in this Notification.

The alternative of not approving the action proposed herein would simply result in the continued use of the materials that the subject FCS would otherwise replace; such action would have no environmental impact.

In view of the fact that the FCS constituents are not expected to enter the environment upon the use and disposal of finished food contact articles, and the absence of any significant environmental impact which would result from its use, the establishment of an effective FCN to permit the use of the subject FCS as described herein is not expected to significantly affect the quality of the human environment.

12. List of preparers

**Hiroshi Tamaru, Senior General Manager,
Fabricated Products Division, Consumables SBU,
Asahi Kasei Corporation, Tokyo Japan**

Hiroshi Ishiwata, Technical Director, DJK Corporation, Tokyo Japan

**William A. Olson, US Technical Contact, Center for Regulatory Services, Inc.,
5200 Wolf Run Schoals Road, Woodbridge, VA 22192-5755**

13. Certification

The undersigned official certifies that the information presented is true, accurate, and complete to the best of the knowledge of Asahi Kasei Corporation.

**August 8, 2016
(date)**


**Hiroshi Tamaru
Senior General Manager,
Fabricated Products Division
Consumables SBU
Asahi Kasei Corporation
Tokyo, Japan**