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Press Release

Company name: Daikin Industries, Ltd.
Representative: Yuki Yoshi Okano, President

Elimination of PFOA in Fluorochemical Products

Daikin Industries, Ltd (Head Office: Osaka, Japan) announced today that Daikin and its subsidiaries intend to stop manufacturing, using and selling Perfluorooctanoic Acid (PFOA) and C8 telomer-based water and oil repellent products by the end of 2012. PFOA is used during the manufacturing process of some plastics, and a trace amount of it may remain after manufacturing. PFOA is not used in the manufacture of "C8" protective products, but it does occur as a byproduct of the manufacturing process. PFOA is not regulated, but concerns about the material have been expressed. Daikin will voluntarily replace all existing products with alternative non-PFOA products.

In 2000, the U.S. Environmental Protection Agency (EPA) became concerned about data that indicated that PFOA is found in human blood in the general population. Since then, the EPA and industry have conducted studies, and collected and shared information regarding PFOA. In addition, Daikin has participated in the EPA's "2010/15 PFOA Stewardship Program" and has previously announced specific actions to reduce PFOA, precursors of PFOA, and some related chemicals by 95% by 2010 and to work toward eliminating them by 2015. With this announcement Daikin has indicated that it intends to meet the goals of the Stewardship Program three years early.

(Background information is attached)

End of Report

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1. PFOA:

“PFOA” is an abbreviation for Perfluorooctanoic Acid. The chemical formula for PFOA is C₈F₁₅O₂H. In practice, the terms “PFOA” and “C8” (so called because of the carbon chain length) are often used to include the principal salts of the acid, (e.g.: ammonium salt, alkali metal salt; C₇F₁₅COOX, X ; NH₄, Na, K).

PFOA is a polymerization aid for some fluoropolymers and fluoroelastomers that are employed in high performance applications in many industries including aerospace, automotive, chemical processing, semiconductor manufacturing, information and telecommunication.

2. C8 Telomer-based water and oil repellent products:

C8 telomer is a chemical compound that contains perfluoroalkyl group C₈F₁₇-. Many water and oil repellent products (used for long term protection of textiles and carpets) are based on this compound. A trace amount of PFOA is generated as an unintended byproduct during the manufacturing process.

3. How does PFOA affect the environment?

Industry uses PFOA because it is a very stable soap-like chemical. Being stable, it does not readily degrade in the environment. Once taken up, it is eliminated from the body slowly, so PFOA may remain for relatively long periods in the body. Although current research does not establish that the levels of PFOA found in the general environment cause human health effects, studies indicate that PFOA causes adverse effects in laboratory animals given high doses over a long period.

In January 2005, U.S. EPA published a draft risk assessment on PFOA based on all the available studies and data to that point.^{1 2}

4. Daikin’s Products and PFOA:

Daikin manufactures and uses PFOA as a polymerization aid to make some fluoropolymers and fluoroelastomers. Most of the PFOA is destroyed during the manufacturing process, but a trace amount of PFOA remains in some materials. These materials are further processed by molders and processors under conditions that are expected to destroy PFOA, so PFOA remaining in finished products is minute, if present at all. PFOA is not used to make C8 telomer-based products (e.g.: water/oil repellants, mold releases, surfactants), but it may be present at very low levels, however, as an unintended byproduct in telomer products.

5. Alternative technologies

Daikin will achieve elimination of PFOA from the following two product groups.

¹ Draft Risk Assessment Of The Potential Human Effects Associates With Exposure To Perfluorooctanoic Acid and Its Salts

² EPA, PFOA Homepage: <http://www.epa.gov/opptintr/pfoa/pfoastewardship.htm>

- Fluoropolymers/Fluoroelastomers
From 2008, Daikin will begin to manufacture alternative fluoropolymer and fluoroelastomer products with a non-PFOA processing aid. Daikin plans to finish replacing existing products with new ones by 2012.
- Water/Oil repellents
Daikin has developed alternative products based on C6 telomer, instead of C8 telomer. Daikin has begun replacement of C8 products with alternatives, and plans to convert all products by 2012.

6. Daikin's Activities on PFOA

① Investigation of PFOA by EPA and cooperation with the industry

In mid-2000, EPA became concerned that PFOA may be present in the blood of the general U.S. population. The Agency asked manufacturers of fluoropolymers and fluorotelomers to provide information regarding PFOA. In order to respond to the EPA in a coherent way, the manufacturers organized the Fluoropolymer Manufacturers Group (FMG) and the Telomer Research Program (TRP), representing the two major areas of products related to PFOA. As a member of both FMG and TRP, Daikin has been an active participant in the industry cooperation with the EPA in the study of PFOA and collecting of information.

② Letters of Intent (LOI)

In March 2003, Daikin committed to the US EPA to reduce PFOA in products and releases from facilities by more than 50%. Daikin exceeded that goal (68%) in 2006.

③ Enforceable Consent Agreements (ECA)

In April 2003, the EPA began a public process to collect information, in cooperation with the industry, to determine the sources of PFOA in the environment. One of the outcomes of these consultations was ECAs, legally binding agreements, to conduct testing to determine whether burning of discarded telomer or fluoropolymer & fluoroelastomer products as waste in municipal incinerators could generate PFOA emissions. These studies are currently underway.

④ Further action by the industry on fluoropolymer dispersion products

In February 2005, FMG announced the commitment of its members to reduce PFOA in products where fluoropolymers are sold as an aqueous dispersion by at least 90% from a year 2000 baseline. Daikin has achieved the goal (more than 90%).

⑤ The 2010/2015 PFOA Stewardship Program³

On January 25, 2006, EPA announced the creation of the "2010/15 PFOA Stewardship Program" and asked fluorochemical manufacturers to participate in the program. To participate in this program, fluorochemical manufacturers committed to:

³ EPA, PFOA Homepage: <http://www.epa.gov/opptintr/pfoa/pfoastewardship.htm>

- a. Reduce product content and facility releases of PFOA, precursors⁴ of PFOA and higher homologue perfluorinated substances⁵ (e.g., C9, C10, C12), by 95% by 2010 (from a year 2000 baseline); and
- b. Work towards the elimination of such chemicals from environmental releases and products by 2015.
- c. Publish yearly reports on their progress toward those goals.

Daikin formally committed to participate in the EPA program in March 2006 and has steadily made progress toward the reductions.

7. PFOA and the Chemical Substances Control Law in Japan

PFOA is categorized as a Type II Monitoring/Designated Chemical Substance under the Chemical Substances Control Law in Japan. For such substances, manufacturers have an obligation to submit an annual report to Ministry of Economy, Trade and Industry (METI) on the production volume and the sales volume of the previous year. APFO is also expected to be categorized as a Type II Monitoring/Designated Chemical Substance in the near future. Under Japan's Pollutant Release and Transfer Register (PRTR) system, APFO is categorized as a Class II Designated Chemical Substance. The law requires manufacturers to provide information on APFO in a Material Safety Data Sheet (MSDS), which accompanies the substance in commerce, when the product content of APFO is more than 1%.

8. The US EPA's PFOA Web-site

Much useful information about PFOA may be found on the US EPA's PFOA web-site at:

<http://www.epa.gov/oppt/pfoa/index.htm>

⁴ A chemical that can break down to form another chemical, (in this case, PFOA) is what EPA means by a "precursor." For example, some residual monomer chemicals from the telomer manufacturing process such as telomer alcohols and telomer iodides may remain in the final product and break down into PFOA.

⁵ PFOA is an eight-carbon chain length chemical. Chemicals similar in structure to PFOA but with nine or more carbons in the chain would be higher homologues of PFOA.