JMC Japan Machinery Center for Trade and Investment

February 28th, 2024

Maine DEPARTMENT OF Environmental Protection

Dear Sirs,

JMC Proposal regarding Proposal of "PFAS in Products: Currently Unavoidable USES "

The Japan Machinery Center for Trade and Investment ("**JMC**") is a non-profit organization. It was established in December 1952 in accordance with the Japanese Export and Import Trade Law under the authorization of the Minister of Economy, Trade and Industry of Japan. The objective of the JMC is to engage in activities that enhance the common benefit of member companies and promote the sound development of international trade and investment by the machinery industry. JMC comprises member companies engaged in machinery and systems-related exports and foreign investments such as machinery manufacturers, trading houses and engineering companies. At present, the total number of JMC member companies is about 240.
Our committee handles environmental and product safety issues regarding products for trade and is strongly concerned with overseas environment and product safety-related regulations on products. From this standpoint, we would like to submit a Proposal regarding PFAS in Products : Currently Unavoidable USES.

Rm. 401, Kikai Shinko Bldg., 3-5-8 Shiba-koen Minato-ku, Tokyo 105-0011, Japan
Tel : 81-3-3431-9230 , Fax : 81-3-3436-6455
E-mail : morikawa@jmcti.or.jp
URL : https://www.jmcti.or.jp

JMC Japan Machinery Center for Trade and Investment

If you have any questions, please feel free to contact our secretariat (Mr. Chiaki Morikawa, E-mail: morikawa@jmcti.or.jp)).

Sincerely yours,

KANNO Yasuhiko

Chairman
Environment Law Committee

JMC Japan Machinery Center for Trade and Investment

Our proposal regarding Proposal of "PFAS in Products : Currently Unavoidable USES "

On January 4, 2024, the Department of Environmental Protection (DEP) in Maine, USA opened a consultation to run until March 1, 2024 to identify "currently unavoidable uses (CUU)" under the Per/Polyfluoroalkyl Substances (PFAS) Pollution Prevention Act of 2021. The Japan Machinery Center for Trade and Investment ("**JMC**") would like to show its appreciation for the opportunity to respond to the request for public comments on the regulation.

The determination of CUUs that are essential for health, safety or the functioning of society and for which alternatives are not reasonably available is presenting significant challenges for us in continuing our business, particularly with regard to alternatives to PFAS, which are used in components for construction machinery, and we would like to propose the following.

I. The target product

We would like to express our opinion on the unavoidable use (CUU) of construction machinery. The term construction machinery in these comments refers to equipment used in civil engineering, construction, mining, and forestry. Such equipment includes excavators, tractors, bulldozers, loaders, cranes, and harvesters.

II. Problems and requests for the regulated substances

This proposal for PFAS restrictions would be applied to more than 10,000 organofluorine compounds (PFAS) because of the risks they pose, which are said to be equivalent to those of PFOS and PFOA substances already regulated owing to their persistence in the environment.

To investigate this number of substances would require surveying more than 10,000 components in construction machinery with complex supply chains, which is beyond our capabilities. Thus, it would pose significant difficulty in determining the usage of these substances.

We would like to propose that a necessary list of substances be presented.

Ⅲ. Examples of PFAS applications and requirements in the construction machinery sector

Construction machinery is designed for long-time use under harsh conditions. The materials, parts, and components of those machines are required to meet rigorous design and testing requirements to ensure that important functions operate safely, uninterruptedly and effectively at construction sites.

To meet these requirements, PFAS play important roles with their many useful chemical and physical properties.

1. Examples of applications

(1) Refrigerants:

For construction machinery used under harsh conditions, air conditioners are very important occupational health and safety systems for providing operators with a healthier work environment. Also, some of the devices require their own cooling systems. PFAS are used as refrigerants in both air conditioning and cooling systems. Despite the widespread use of HFC-134a, there has been a shift to the use HFO-1234yf (also a PFAS with a GWP of less than 1) to help prevent climate change, in line with F-Gas regulations. HFO-1234yf is not a persistent substance, and there are no unacceptable risks identified from it.

Natural refrigerants have been proposed as alternative substances, but there is still no track record of natural refrigerants in construction machinery and there are issues to be addressed in improving efficiency. Therefore, it is believed that a period of 10 years or more is needed for development. Thus, we would like to request a grace period of 12 years and also request that the status of development be checked and reconsidered after 12 years.

(2) Seals:

The construction machinery uses various kinds of fluids, including hydraulic fluids, lubricants, fuel, and coolants. Sealing technologies such as o-rings and gaskets are used to prevent fluid leaks caused by water, dirt, dust, or other factors and also to protect equipment from water, dirt, dust, and debris. These seals also prevent environmental pollution caused by such leaks. PFAS make up the only chemical family which is possible to provide thermal stability, chemical resistance, low-friction properties, and sealing capabilities in combination for construction machinery used in harsh conditions.

Several PFAS, widely known as fluoropolymers, such as polytetrafluoroethylene (PTFE), have many of these important chemical properties and have become essential to construction machinery because there are no substitutes.

The replacement of PFAS with unsuitable alternatives would impair the functionality of these parts or components and lead to increases in failure rates, leaks, and safety issues, and shorter equipment life.

(3) Hoses:

Hoses transfer fluids without leaking and keep various components and systems clean. Fluoropolymer linings are applied to hoses used under high temperature and pressure to ensure durability and the long-term reliability of components. The use of unsuitable materials poses risks of leaks, reduced efficiency, and damage to equipment.

(4) Paints/coatings:

Paints or coatings with PFAS have enhanced weather resistance and equipment protectivity. These help to extend the service life and maintenance intervals.

(5) Grease/lubricants:

Greases or lubricants with PFAS help reduce friction and increase the durability, efficiency, and protectivity of equipment. At the same time, they help to extend the service life and maintenance intervals.

(6) Electrical and electronic equipment and circuit boards:

PFAS used in electrical and electronic equipment provide both excellent insulation and heat resistance. Materials with such multiple performances are rare, and it is difficult to replace them. Please refer to JP4EE's comments for details on EEE.

(7) Sliding parts:

PFAS used with pins, shafts, and similar parts have the ability to reduce friction, which increases efficiency and durability. The sliding portions require heat resistance and low friction at the same time, so PFAS are important chemical substances.

(8) Alternative power:

Engine manufacturers and other companies have been considering alternative power sources to meet ESG goals. They will continue to study power supply and technology solutions with their innovation and experiments. The two most widely discussed technology solutions, batteries and hydrogen fuel cells, use PFAS to fulfill this important function.

2. Requests from the construction machinery sector

PFAS are used in various ways in construction machinery. Construction machinery shares many aspects with automotive parts, and this sector shares similar supply chains to the automotive industry.

Most of the arguments about application and the essential use cases supporting the automotive sector could be applied to the field of construction machinery. The field of construction machinery has an additional challenge to the automotive sector in that the equipment is used in extreme environments and in heavy duty situations which require higher durability and sustainability.

These characteristics cause difficulty in searching for suitable alternative materials even more for this sector. For these reasons, it is difficult to apply the same conditions of the automotive sector directly to construction machinery, and so we would like to request that the construction machinery sector be CUU designated to be exempted from this requirement until substitutes become widely available.

The main products that fall under the construction machinery sector are those classified as 8425, 8426, 8427, 8428, 8429, and 8430 in the HTS code Heading. [*1]

*1:

8425: Pulley tackle and hoists other than skip hoists; winches and capstans; jacks

8426: Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane

8427: Fork-lift trucks; other works trucks fitted with lifting or handling equipment:

8428: Other lifting, handling, loading or unloading machinery (for example, elevators, escalators, conveyors, and teleferics)

8429: Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers (limited to self-propelled type)

8430: Other moving, grading, leveling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers (limited to those for soil, minerals or ores) and pile-extractors; snowplows and snowblowers:

IV. Conclusion

The JMC would like to make the following two proposals:

- A list of target substances be presented.
- As a CUU designation, the construction machinery sector be exempted from the requirement until substitutes become widely available.

V. Others

PFAS like F-gases (HFCs/HFOs) used as refrigerants and fluoropolymers in air conditioning, and heat pump products which ensure the safety, security, and health of users in challenging climatic conditions are critical materials which are used in functional components and structural materials.

Hence, we strongly request the material used in essential RACHPs and their components to be exempted as CUU from restrictions on the use of F-gases and fluoropolymers. Please see the details in the comments of the Japan Refrigeration and Air Conditioning Industry Association (JRAIA).

End