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Comment on Proposed Restriction of PFAS

Japan Valve Manufacturers' Association (JVMA)

Japan Valve Manufacturers Association (JVMA) appreciates the opportunity to provide comments to the PFAS restriction proposal.

1. Introduction

JVMA was established in 1954 and has been a representative association of Japanese valve industry for nearly seventy years. As of today, we are comprised of 115 majors domestic valve manufacturers including several Japanese subsidiaries of European valve makers and additional 68 associate companies. Since our establishment, we have implemented various effective programs to contribute to society, occasionally cooperating with some of Central Government Ministries and Agencies. Especially we are pouring the biggest effort to resolve environmental problems, so the Environmental Committee and four working groups in our organization are working on the following issues:

- Greenhouse gas reduction.
- Design for the environment of valves.
- Life cycle assessment of valves.
- Gathering information on restricted substances.
- Environmental education.

To response to the PFAS restriction proposal, we have prepared a technical and socioeconomic statement which is attached document.

2. Comment

Technological functions offered by PTFE are persistence and heat resistance. Persistence and heat resistance are required for valves in the following categories.

▪Diaphragms of valves used for the supply and waste of high-temperature (200° C or higher) chemical solutions in the cleaning process of the semiconductor manufacturing category.

▪Valve seats for valves used for high-purity gas supply, high-purity chemical supply, and waste liquid in the semiconductor manufacturing category.

▪Valve gaskets used for supply of high-purity gas, supply of high-purity chemical liquid, and waste liquid in the semiconductor manufacturing category.

- Valve boxes for valves used for supplying high-purity gases and high-purity chemicals in the semiconductor manufacturing category and for waste liquids.
- Diaphragms of valves used for supply of high-purity gas in the semiconductor manufacturing category, supply of high-purity chemicals, and waste liquid.
- High-purity gas supply in the semiconductor manufacturing category, high-purity chemical supply.
- Valve pistons and covers used for waste liquids.
- Supply of high-purity gases and high-purity chemicals in the semiconductor manufacturing category.
- Screws and springs for valves used for waste liquids.
- Valve joints used in chemical supply and circulation lines in the semiconductor manufacturing category.
- Backup rings used for cold evaporator valves in the semiconductor industry category.
- Backup rings used for process piping valves in the semiconductor industry category.
- Diaphragms used in cold evaporator valves in the semiconductor industry category.
- Diaphragms used in valves for process piping in the semiconductor industry category.
- Bearings, bushes and guides used in cold evaporator valves in the semiconductor industry category.
- Bearings, bushes, and guides used in valves for process piping in the semiconductor industry category.
- Disc sheets and ball sheets used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the electronics and semiconductor field category.
- Packings and shaft seals used for sliding part shaft seals of fluid control equipment in the electronics and semiconductor field category.
- Disc seats and ball seats of valves used for seals, sliding parts, and shaft seals of fluid control equipment in the energy category.

- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the energy category.
- Backup rings used for cold evaporator valves in the energy category.
- Backup rings used for process piping valves in the energy category.
- Diaphragms used in energy category cold evaporator valves.
- Diaphragms used in valves for process piping in the energy category.
- Bearings, bushes, and guides used in energy category cold evaporator valves.
- Bearings, bushes, and guides used in valves for process piping in the energy category.
- Disc seats and ball seats of valves used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the chemical industry category.
- Valve packings and shaft seals used for sliding part shaft seals of fluid control mechanisms in the chemical industry category.
- Seat rings, gland packings, and gaskets for valves used for chemical industry category raw materials (chemical products, pellets), transport line steam, and waste liquids.
- Valve bushings used for chemical industry category raw materials (chemical products, pellets), conveying line steam, and waste liquids.
- Valve packing and shaft seal used for sliding part shaft seal of fluid control mechanism in water supply equipment category.
- Disc seats and ball seats of valves used for seals, sliding parts, and shaft seals of fluid control equipment in the construction product category.
- Valve packings and shaft seals used for sliding part shaft seals of fluid control mechanisms in the building product category.

- Disc seats and ball seats of valves used for seals, sliding parts, and shaft seals of fluid control equipment in the food manufacturing category.

- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the food manufacturing category.

- Raw materials in the food manufacturing category (wheat, malt), valve bushes used for steam.

- Diaphragms of valves used in production equipment for the food manufacturing category and lines for various liquid food equipment.

- Diaphragms of valves used in lines for various acidic/alkaline process liquids in the food manufacturing category.

- Diaphragms of valves used in lines for filling equipment in the food manufacturing category.

- Ball valve seats, packings, and gaskets for valves used in production equipment for the food manufacturing category and lines for various liquid food equipment.

- Ball valve seats for valves used for raw material transfer, powder transfer, and storage in the food manufacturing category.

- Disc seats and ball seats of valves used for seals, sliding parts, and shaft seals of fluid control equipment in the petroleum and mining industries.

- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the petroleum and mining industries.

- Disc seats and ball seats of valves used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the transportation category.

- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the transportation category.

- Disc seats and ball seats of valves used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the medical equipment category.

- Valve packings and shaft seals used for sliding part shaft seals of fluid control mechanisms in the medical equipment category.

- Pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, papermaking, household equipment, steam for laundry category, sterilization of pharmaceutical tanks.

- Sterilization of food production lines.

- Various raw materials and reactors Gaskets and packings for valves used for heating, hot water production, and safety valves for boilers.

- Pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, papermaking, household equipment, steam for laundry category, sterilization of pharmaceutical tanks.

- Sterilization of food production lines.

- Various raw materials and reactors Seat rings for valves used for heating, hot water production, and safety valves for boilers.

- Pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, papermaking, household equipment, steam for laundry category, sterilization of pharmaceutical tanks.

- Sterilization of food production lines.

- Various raw materials and reactors Piston rings for valves used for heating, hot water production, and safety valves for boilers.

- Pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, papermaking, household equipment, steam for laundry category, sterilization of pharmaceutical tanks.

- Sterilization of food production lines.

- Various raw materials and reactors valve discs used for heating, hot water production, and safety valves for boilers.

- Manufacturing plants such as pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, paper manufacturing, housing equipment, water and liquids in the laundry category, water supply lines for housing, factories, etc. Gaskets and packings for valves used

in lines.

- Manufacturing plants such as pharmaceuticals, chemistry, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, paper manufacturing, housing equipment, water and liquids in the laundry category, water supply lines for housing, factories, etc. Discs of valves used in lines.

- Gaskets for valves used in pharmaceuticals, chemicals, food, electrical equipment, metals, steel, rubber, glass, textiles, petroleum, paper manufacturing, housing equipment, laundry category air, equipment drive air control, and drying air lines ,rubber seal.

- Valve gaskets used to eliminate drain in steam piping systems in the chemical industry & more category.

- Disc valves for valves used to eliminate drain in steam piping systems in the chemical industry & more category.

- Bushings of valves used for drain exclusion of steam piping systems in the chemical industry & more category.

- Packing for valves used to eliminate drain in steam piping systems in the chemical industry & more category.

- Valve gaskets used to eliminate drain in air and gas piping systems in the chemical industry & more category.

- Valve gaskets used to eliminate drain in air and gas piping systems in the chemical industry & more category.

- Disc valves used for drain exclusion in air and gas piping systems in the chemical industry & more category.

- Bushings of valves used for drain exclusion in air and gas piping systems in the chemical industry & more category.

- Packing for valves used for drain exclusion in air and gas piping systems in the chemical industry & more category Balls in valves used for flow confirmation in steam/water piping systems in the chemical industry & more category.

- Valve gaskets used for flow confirmation in steam/water piping systems in the chemical industry & more category.

- Valve gaskets used to prevent backflow in steam/water piping systems in the chemical industry & more category.

- Bushings of valves used for pumping condensate in steam piping systems in the chemical industry & more category.

- Lubricant for valves used for lubrication during assembly of gas valves, fittings, water supply equipment manufacturing category, lubrication during piping connection.

- Gasket packing and gland packing for valves used for fluid control of power generation equipment in the thermal, nuclear, hydraulic, and geothermal power generation/steel mills/ships/petrochemical categories.

- Valve packing and shaft seal used for sliding part shaft seal of fluid control mechanism in water supply equipment category.

- Ball valve seats, valve stem lot guides, valve ball seats, stem guides, and valve internal parts guides for building equipment/manufacturing equipment categories.

- Grease for valves used for sliding parts of valve metal parts in building equipment/manufacturing equipment categories.

- Calking material for valves used to seal pipe joints and prevent water leakage in building equipment/manufacturing equipment categories.

- Spring suppressors for valves used for low-sliding parts of sliding parts in building equipment/manufacturing equipment categories, etc..

- Valve seats, packings, gaskets, seal rings, thrust washers, plain rings, wear rings, and bearings used in faulty steam cutoff valves for building air conditioning equipment in the building air conditioning instrumentation category.

- Valve gaskets used for vulcanization, molding, and drying in the plastic, rubber, and leather categories.

- Piston rings for valves used for vulcanization, molding, and drying in the plastic, rubber, and leather categories.

- Control valve bodies for valves used for vulcanization, molding, and drying in the plastic, rubber, and leather categories.

- Gaskets for valves used in pipelines in general plants in the general plant related category.

- Disc seats and ball seats of valves used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the transportation category.

- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the transportation category.

- Back-up rings used for cold evaporator valves in the transportation category.

- Back-up rings used for process piping valves in the transportation category.

- Diaphragms used in valves for cold evaporators in the transportation category.

- Diaphragms used in valves for process piping in the transportation category.

- Bearings, bushes and guides for cold evaporator valves in the transportation category.

- Bearings, bushes and guides used in valves for process piping in the transport category.

- Backup rings used for cold evaporator valves in the medical category.

- Backup rings used for process piping valves in the medical category.

- Diaphragms used in valves for cold evaporators in the medical category.

- Diaphragms used in valves for process piping in the medical category.

- Bearings, bushes, and guides used in medical category cold evaporator valves.

- Bearings, bushes, and guides used in valves for process piping in the medical category.

- Disc seats and ball seats of valves used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the medical equipment category.
- Packings and shaft seals used for sliding part shaft seals of fluid control mechanisms in the medical equipment category.
- Back-up rings used for cold evaporator valves in the aerospace category.
- Back-up rings used for process piping valves in the aerospace category.
- Diaphragms used in valves for cold evaporators in the aerospace category.
- Diaphragms used in valves for process piping in the aerospace category.
- Bearings, bushes, and guides used in valves for cold evaporators in the aerospace category.
- Bearings, bushes and guides used in process piping valves in the aerospace category.
- Valve gaskets used for hot water supply and drying in the linen and cleaning categories.
- Piston rings for valves used for hot water supply and drying in the linen and cleaning categories.
- Control valve body for valves used for hot water supply and drying in the linen and cleaning categories.
- Diaphragms of valves used in supply lines for liquid drugs and vaccines in the pharmaceutical manufacturing category.
- Diaphragms of valves used in lines for PW, UPW purification, and injectable solutions in the pharmaceutical manufacturing category.
- Diaphragms of valves used in CIP cleaning equipment and cleaning liquid lines in the pharmaceutical manufacturing category.
- Diaphragms of valves used in SIP sterilizers and sterilization steam lines in the pharmaceutical manufacturing category.

- Valve packings, sealing materials, and valve bodies used in high-purity chemical manufacturing processes in the chemical category.
- Valve packings, sealing materials, and valve bodies used in highly corrosive fluid manufacturing processes in the chemical category.
- Valve packings, sealing materials, and valve bodies used in processes using highly corrosive fluids in the chemical category.
- Guiding valves used in high-purity chemical manufacturing processes in the chemical category.
- Guiding valves used in highly corrosive fluid manufacturing processes in the chemical category.
- Guide for valves used in processes using highly corrosive fluids in the chemical category.
- Bearings and thrust washers for valves used to control fluids used in chemical fiber manufacturing plants in the chemical fiber category.
- Seat rings, gland packings, gaskets, backup rings of valves used to control fluids used in chemical fiber manufacturing plants in the chemical fiber category.
- Valve slip rings, washers, spring retainers, etc. used as low sliding parts for sliding parts (operating levers, valve bodies, cylinders, etc.) in the category of water supply equipment.
- Lubricant for valves used for lubrication of sliding parts in the water supply equipment category (assembly, sliding durability, etc.).
- Seat packing for valves used for sealing performance, operability, and durability of sliding parts in the water supply equipment category.
- Teflon coating for valves used for high-temperature sliding part shaft seals in the industrial valve category.
- V-packing for valves used for shaft seals of high-temperature sliding parts in the industrial valve category.

- Gaskets for valves used to seal high-temperature pipe joints and prevent water leakage in the industrial valve category.

- Valve seats, packings, gaskets, seal rings, thrust washers, plain rings, wear rings, and bearings used in liquid temperature controllers in the machine tool category.

- Bearings and thrust washers for valves used to control the fluid used to manufacture high-performance resins in the high-performance resin category.

- Seat rings, gland packings, gaskets, backup rings of valves used to control the fluid used in the production of high-performance resins in the high-performance resin category..

- Valve gaskets used for fractionation, refining, chemical reaction, tracing, vaporization, and plating in the steel and metal categories.

- Piston rings for valves used in fractionation, refining, chemical reaction, tracing, vaporization, and plating in the steel and metal categories.

- Control valve elements for valves used for fractionation, refining, chemical reaction, tracing, vaporization, and plating in the steel and metal categories.

- Diaphragms for valves used in phosphoric acid fuel cells in the fuel cell manufacturing category.

- Bearings and thrust washers for valves used to control fluids used in ceramics category ceramics equipment.

- Seat rings, gland packings, gaskets, backup rings of valves used to control fluids used in ceramics category ceramics equipment.

We have not obtained other materials that can replace the multi-functionality of Fluoropolymer PTFE. We may be able to develop alternatives, but we cannot prepare everything in a short period of time. For that reason, we require valves to comply with the conditions of restriction “until 13.5 years after EiF”. It is desirable that the conditions of restriction corresponding to the multiple Uses described in this comment be clarified in the opinion of RAC and SEAC.