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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 major 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

The technical functions provided by PTFE are persistence and elastoplastic.

PTFE has moderate cold flow properties for valve seals. Elastoplastic has a great influence on the sealing performance of the valve. Persistence and elastoplastic are required for valves in the following categories.

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

- 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 tank.

- Sterilization of food production line.

- 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 tank.

- Sterilization of food production line.

- 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 tank/

- Sterilization of food production line.

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

- 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 line.

- 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 line.

- 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. Diaphragms of valves used in line.

- 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 line.

- Valve gaskets and gland seals used for seals, sliding parts, and shaft seals of fluid control equipment in the energy industry.

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

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

- Gaskets, packings, gland seals, shaft seals, and soft seals (disc seats) used in energy category cold evaporator valve.

- Gaskets, packings, gland seals, shaft seals, soft seals (disc sheets) used for process piping valves in the energy category.

- Diaphragms used in cold evaporator valves in the energy category.

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

- Bearings, bushes, and guides used in energy category cold evaporator valve.

- Bearings, bushes, and guides used in valves for process piping in the energy category.
- Gaskets used for cold evaporator valves used in energy category cold evaporator valve.
- Gaskets used for process piping valves in the energy category.
- Diaphragms of valves used in safety valve parts for liquefied gas storage tanks in the energy industry category.
- Gaskets for valves used in safety valve parts for liquefied gas storage tanks and piping in the energy industry/petrochemical category.
- Valve gaskets and gland seals used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the chemical industry 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.
- Diaphragms of valves used in lines for various acidic/alkaline process fluids in the chemical industry category.
- Diaphragms of valves used for transfer and storage of corrosive fluids in the chemical industry category.
- Diaphragms of valves used in chemical lines of electrolysis equipment in the chemical industry category.
- Diaphragms of valves used for the supply and transfer of saturated steam and treated water in the chemical industry category.
- Diaphragms of valves used in chemical filling lines for chemicals in the chemical industry category.

- Ball valve seats, packings, and gaskets for valves used in chemical manufacturing process liquid lines in the chemical industry category.

- Ball valve seats, packings, and gaskets for valves used in chemical lines of electrolysis equipment in the chemical industry category.

- Ball valve seats, packings, and gaskets for valves used in chemical filling lines for chemicals in the chemical industry category.

- Diaphragms of valves used in the production, transfer and storage of highly corrosive liquids and gases in the chemical industry category.

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

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

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

- Valve gaskets used for drain exclusion in steam/water pipe systems in the chemical industry & more category.

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

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

- Gaskets for valves used to supply hot water in factories that use steam in the food manufacturing and pharmaceutical manufacturing categories.

- Valve gaskets used for pressure control in steam piping systems in food manufacturing and pharmaceutical manufacturing categories.

- Seats of valves used for pressure control in steam piping systems in the food manufacturing and pharmaceutical manufacturing categories.

- Piston rings for valves used for pressure control in steam piping systems in food manufacturing and pharmaceutical manufacturing categories.

- Disc seals for valves used to prevent backflow of water/hot water in the food manufacturing and pharmaceutical manufacturing categories.

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

- Gaskets and gland seals for valves used for seals, sliding parts, and shaft seals of fluid control equipment in the construction product 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 construction product category.

- Valve gaskets and gland seals used for seals, sliding parts, and shaft seals of fluid control equipment in the petroleum and mining industries.

- 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.

- Grease for valves used for fluid control in petrochemical and chemical category petrochemical plants and chemical plants.

- Diaphragms of valves used for fluid control in petrochemical and chemical category petrochemical plants and chemical plants.

- Valve gaskets and gland seals used for seals, sliding parts, and shaft seals of electronic and semiconductor category fluid control equipment.
- Disc seats and ball seats of valves used for seals, sliding parts, and shaft seals of electronic and semiconductor category fluid control equipment.
- Valve packing and shaft seal used for the sliding part shaft seal of the fluid control mechanism in the electronics and semiconductor categories.
- Valve gaskets and gland seals used for sealing parts, sliding parts, and shaft seals of fluid control equipment in the transportation category.
- Disc seats and ball seats of valves used for seals, 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.
- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used for cold evaporator valves in the transport category.
- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used for process piping valves in the transport 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.
- Gaskets used for cold evaporator valves in the transportation category.
- Gaskets used for process piping valves in the transport category.

- Used in pharmaceuticals, foods, cosmetics, fine chemicals, liquid crystal category pharmaceuticals, cosmetics, fluid control of food production lines, filling valves, liquid crystal, semiconductor manufacturing chemical lines, viscous fluids, slurry fluid control, and lithium-ion battery production lines valve gasket.

- Used in pharmaceuticals, foods, cosmetics, fine chemicals, liquid crystal category pharmaceuticals, cosmetics, fluid control of food production lines, filling valves, liquid crystal, semiconductor manufacturing chemical lines, viscous fluids, slurry fluid control, and lithium-ion battery production lines valve diaphragm.

- Used in pharmaceuticals, foods, cosmetics, fine chemicals, liquid crystal category pharmaceuticals, cosmetics, fluid control of food production lines, filling valves, liquid crystal, semiconductor manufacturing chemical lines, viscous fluids, slurry fluid control, and lithium-ion battery production lines valve piston packing.

- Diaphragms of valves used for transfer and storage of bioprocess liquids in the pharmaceutical manufacturing category.

- Diaphragms of valves used in manufacturing facilities for intermediates and active pharmaceutical ingredients in the pharmaceutical manufacturing category.

- Diaphragms of valves used for transfer of various process liquids in multi-plants in the pharmaceutical manufacturing category.

- Diaphragms of valves used in lines for PW, UPW purification, and injectable solutions in the pharmaceutical manufacturing category.

- CIP cleaning equipment and cleaning liquid line in the pharmaceutical manufacturing category.

- Diaphragms of valves used in SIP sterilizers and sterilization steam lines in the pharmaceutical manufacturing category.

- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used in medical category cold evaporator valves.

- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used in 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.
- Gaskets used for cold evaporator valves in the medical category.
- Gaskets used for process piping valves in the medical category.
- Valve gaskets and gland seals used for seals, sliding parts, and shaft seals of fluid control equipment in the medical equipment 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.
- 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.
- Diaphragms of valves used in chemical dosing equipment for pretreatment processes in the seawater desalination equipment category.

- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used for cold evaporator valves in the aerospace category.
- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used in valves for process piping 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 cold evaporators in the aerospace category.
- Gaskets used in valves for process piping in the aerospace category.
- High-purity chemical transport in the industrial equipment (transportation) category, valve packings, sealing materials, and valve bodies used for transportation.
- Conveyance of corrosive fluids in the industrial equipment (transportation) category, valve packings, sealing materials, and valve bodies used for transportation.
- Diaphragms of valves used in chemical lines of pure water equipment and wastewater treatment equipment in the industrial water treatment category.
- Diaphragms of valves used in chemical lines for neutralization equipment and filtration equipment in the water and sewage treatment category.
- Valve gaskets used to control viscous fluids and slurry fluids in petroleum and chemical categories.
- Petroleum, chemical, space, pharmaceutical, food, cosmetics, fine chemicals, pharmaceuticals in the liquid crystal category, cosmetics, fluid control of food manufacturing

lines, filling valves, liquid crystal, semiconductor manufacturing chemical lines, viscous fluids, control of slurry fluids, lithium-ion batteries.

- Disc packing for valves used in the production line.
- Rod packing for valves used in pneumatic actuators in the petroleum, chemical, space, pharmaceutical, food, cosmetics, fine chemical, and liquid crystal categories.
- Gland packing for valves used for precision fluid control of process lines, research experiments in the petroleum, chemical, nuclear power, and thermal power categories.
- Diaphragms of valves used for urea water supply machines in the petroleum equipment manufacturing category.
- Diaphragms of valves used in electrolyte supply lines for electrolytic capacitors in the electronic component manufacturing category.
- Diaphragms of valves used in electrolyte supply lines in the secondary battery manufacturing category.
- Diaphragms of valves used in chemical lines for neutralization equipment, wastewater treatment equipment, and electrolytic treatment equipment in the water treatment category for power generation.
- Valve packing, sealing material, and valve body used for supply of high-purity chemicals in the cleaning process of the semiconductor category, and for waste liquids.
- Diaphragms of valves used for manufacturing, transporting, and storing various high-purity chemicals in the semiconductor and electronics categories.
- Diaphragms of valves used for supplying and effluent of various high-purity chemicals in the semiconductor and electronics categories.
- Diaphragms of valves used for semiconductor-grade pure water supply equipment in the semiconductor and electronics categories.
- Diaphragms of valves used in chemical supply lines for manufacturing secondary batteries

in the semiconductor and electronics categories.

- Ball valve seats for valves used for transfer and storage of electronic material process liquids and refined chemical liquids in the semiconductor and electronics categories.

- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used for cold evaporator valves in the semiconductor industry category.

- Gaskets, packings, gland seals, shaft seals, soft seats (disc seats) used for process piping valves in the semiconductor industry category.

- Diaphragms used in valves for cold evaporators 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.

- Gaskets used for cold evaporator valves in the semiconductor industry category.

- Gaskets used in valves for process piping in the semiconductor industry category.

- 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.

- Diaphragms of valves used in ultrapure water facility lines in semiconductor factories in the semiconductor manufacturing category.

- Silent and anti-oscillation materials for valves used for pressure control in chemical supply and circulation lines in the semiconductor manufacturing category.

- Diaphragms of valves used as valve seats of check valves in the semiconductor manufacturing category.

- Valve gaskets used to supply high-purity gases in 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 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 supplying high-purity gases and high-purity chemicals in the semiconductor manufacturing category and for waste liquids.
- High-purity gas supply in the semiconductor manufacturing category, high-purity chemical supply.
- Valve pistons and covers used for waste liquids.
- Valve covers, levers and rings used to drive actuators in the semiconductor manufacturing category.
- Valve tubes used for gas, chemical supply and circulation lines in the semiconductor manufacturing category.

We have no information about polymers with persistence and elastoplastic properties offered by 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 SEAC.