

September 26, 2022

## Subject: Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)

### Background

Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) is a European Union regulation (2006/1907) which entered into force on June 1, 2007.

### Definitions

- **Substance:** A chemical element and its compounds (Example: Ethylene Glycol).
- **Preparation:** A mixture or solution composed of two or more substances (Example: Swagelok® Real Cool Snoop® liquid leak detector which consists of Ethylene Glycol, surfactant, and water).
- **Article:** An object that has been given a specific shape or design which determines its function to a greater degree than does its chemical composition (Example: Swagelok products such as fittings or valves).
- **Polymer:** A natural or synthetic compound of usually high molecular weight

### Registration

REACH requires that substances of one tonne or more in volume (annually) that are manufactured in or imported into the European Union be registered with a central European authority. There are many exemptions within the regulation, the following of which have an effect on Swagelok:

- Polymers are exempt from registration
- Substances within an article not intended to be released as part of the normal function of the article are exempt from registration (Example: The ink in an inkjet cartridge is intended to be released as part of the normal function of the cartridge and is therefore not exempt from registration. Lubricant in a valve or fitting is not intended to be released from the product as part of the normal function of the product and is therefore exempt from registration).

### Substances of Very High Concern (SVHCs)

REACH requires all substances of very high concern present in articles above a concentration limit of 0.1% SVHC weight by article weight, and greater than one tonne shipped into the European Union, must be registered.

### Current Effect on Swagelok

Swagelok products have been evaluated against the requirements of the REACH regulation, and it has been determined that no registration is required at this time.

- Substances contained within preparations imported into the European Union (Snoop, Real Cool Snoop, etc.) do not exceed the one tonne annual threshold required to impose registration.
- Preparations contained within Swagelok products (lubricants, sealants, etc.) are exempt from registration since they are not intended to be released as part of the normal function of the products.
- Swagelok monitors and maintains compliance with the latest published SVHC list from ECHA website. This includes the June 10, 2022 ECHA update to the SVHC list - <http://echa.europa.eu/web/guest/candidate-list-table>.
- To the best of our knowledge and belief, Swagelok fluid system components, except select products containing SVHCs in Table 1 below, ***do not contain*** any of the SVHCs above the 0.1% SVHC weight/product weight threshold established by the REACH regulation. This statement is based on all available information from Swagelok and participating suppliers as of the date of this letter.

## Using this Document

REACH compliance status for most standard Swagelok products can be determined using the information in Table 1 below.

- Example 1: Part Number – SS-810-1-8
  - MS-01-140 notes in Table 1: Lead in brass and carbon steel components, Hexavalent Chromium and Cadmium in aluminum components
  - This fitting is made entirely from stainless steel and does not contain any brass, carbon steel, or aluminum, therefore it is REACH compliant.
- Example 2: Part Number – SS-1RF4
  - MS-01-164 notes in Table 1: Lead in brass and carbon steel components, Cadmium plating on 1, 18, and 20 series steel fasteners
  - This valve has a stainless steel body and uses 1b Component, 1② Series handle materials. Refer to the Materials of Construction table in catalog MS-01-164.
  - This valve is not REACH compliant due to both the brass insert in the phenolic handle and the nickel cadmium-plated steel set screw.
- Example 3: Part Number – SS-43S6MM-31C
  - MS-02-331 notes in Table 1: Lead in brass components, See MS-02-343 notes for actuated options, Note: Brass 40 series handle insert does not contain lead
  - MS-02-343 notes in Table 1: Lead in bronze components, Cadmium plating on internal screws, cap screws, and retaining rings, Lead in brass and carbon steel mounting bracket kit components
  - This valve has a stainless steel body and a 31 model pneumatic actuator. Refer to the Materials of Construction table in catalogs MS-02-331 and MS-02-343.
  - This actuated valve assembly is not REACH compliant due to the bronze shaft bushing, the cadmium-plated steel internal screw, the cadmium-plated cap screw, and the cadmium-plated retaining ring actuator components. The brass insert in the 43 series nylon handle does not contain lead, so this valve without the actuator (SS-43S6MM) would be REACH compliant.



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Table 1

All products in the listed catalogs do not contain SVHCs above the 0.1% threshold established by the REACH regulation unless otherwise indicated in this table.		
Catalog Description	Catalog #	SVHC above threshold in component
PFA Tube Fittings	MS-01-05	None present
Industrial Excess Flow Valves, XS Series	MS-01-110	None present
Quick-Connects	MS-01-138	Lead in brass components
Gaugeable Tube Fittings and Adapter Fittings	MS-01-140	Lead in brass and carbon steel components Hexavalent Chromium and Cadmium in aluminum components
Proportional Relief Valves, R Series	MS-01-141	DEHP in bonded poppet for components SS-3AS-R4-BN, SS-3AS-R4-EP and SS-3AS-R4-NE Lead in lock wire crimp shipped with spring kits
Metering Valves, S, M, L, and 31 Series	MS-01-142	Lead in brass and carbon steel components
Ball Valves, General Purpose and Special Application, 60 Series	MS-01-146	Lead in brass components Cadmium plating on steel fasteners See MS-02-343 notes for actuated options
Pipe Fittings	MS-01-147	Lead in brass and carbon steel components
Weld Fittings, Ultrahigh-Purity and Industrial	MS-01-149	None present
Compact, High-Flow Gas Regulators, HF Series	MS-01-156	None present
Stainless Steel Titanium Alloyed Tubing (Metric)	MS-01-158-SCS	None present
Integral-Bonnet Needle Valves, O, 1, 18, 20, and 26 Series	MS-01-164	Lead in brass and carbon steel components Cadmium plating on 1, 18, and 20 series steel fasteners
Springless Diaphragm Valves for High Performance, DP Series	MS-01-165	None present
Trunnion Ball Valves, 83 Series and H83 Series	MS-01-166	None present, see MS-02-343 for actuated options Note: Brass 83 series handle insert does not contain lead
Severe-Service Union-Bonnet Needle Valves, N Series and HN Series	MS-01-168	Cadmium plating on handle pin and steel fasteners Lead in N series phenolic handle options
Diaphragm Valves, LD Series	MS-01-172	Lead in brass and bronze components
SAF 2507 Super Duplex Weld Fittings	MS-01-173	None present
Swagelok Gaugeable SAF 2507 Super Duplex Tube Fittings	MS-01-174	None present
Check Valves, C, CA, CH, CP, and CPA Series	MS-01-176	Lead in brass components DEHP in BN-60-OR-009, submit Flowan with Swagelok part number to Compliance for assessment
Sample Cylinders, Accessories, and Outage Tubes	MS-01-177	Cadmium plating on end caps and neck rings
Hose and Flexible Tubing	MS-01-180	Lead in brass components Lead in lanyard tag crimp
Stainless Steel Seamless Tubing and Tube Support Systems	MS-01-181	None present
Ultrahigh-Purity (UHP) and High-Purity Stainless Steel Tubing	MS-01-182	None present
Bellows-Sealed Valves, B Series	MS-01-22	Lead in brass components
Bellows-Sealed Metering Valves, BM Series	MS-01-23	Lead in brass components
VCR® Metal Gasket Face Seal Fittings	MS-01-24	None present
VCO® O-Ring Face Seal Fittings	MS-01-28	None present
Ultra-Torr® Vacuum Fittings	MS-01-32	None present
Electric Actuators	MS-01-35	None present
Bellows-Sealed Valves, H Series	MS-01-36	None present
Bellows-Sealed Valves, U Series	MS-01-38	None present
Nonrotating-Stem Needle Valves, D Series	MS-01-42	Lead in brass components Cadmium plating on steel fasteners



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Table 1 (cont.)

All products in the listed catalogs do not contain SVHCs above the 0.1% threshold established by the REACH regulation unless otherwise indicated in this table.		
Catalog Description	Catalog #	SVHC above threshold in component
Rising Plug Valves, 4P and 5P Series	MS-01-49	None present
Gauge Valves	MS-01-52	None present
Toggle Valves	MS-01-54	Lead in brass components
PFA Plug Valves, 43 Series	MS-01-56	None present
Plug Valves, P4T and P6T Series	MS-01-59	Lead in brass components
Bleed Valves and Purge Valves	MS-01-62	Lead in brass and carbon steel components Cadmium plated cap on carbon steel purge valve
PFA Needle Valves, 4RP Series	MS-01-69	None present
Diaphragm Valves, DL and DS Series	MS-01-73	Lead in brass components
High-Pressure, Pneumatically Actuated Bellows-Sealed Valves, HB Series	MS-01-76	Lead in bronze components
Screwed-Bonnet Needle Valves, JB Series	MS-01-84	None present
Screwed-Bonnet Needle Valves, JN Series	MS-01-85	Lead in brass components
Leak Detectors, Lubricants, and Sealants	MS-01-91	None present
Filters, FW, TF, and F Series	MS-01-92	Lead in brass components
Heat Exchanger Tube Plugs	MS-01-93	Lead in brass and carbon steel components
Bellows-Sealed Valves, BN Series	MS-01-94	Lead in bronze components
Lift Check Valves, 50 Series	MS-01-98	None present
D60 Series Distribution Block Valves	MS-02-02	None present
Bellows-Sealed 3-Valve Manifold	MS-02-07	None present
Instrumentation Blowdown Valves, 6DB Series	MS-02-118	Cadmium plating on steel fasteners
Stainless Steel Tubular Fittings, Ultrahigh-Purity and Chemically Cleaned and Passivated	MS-02-125	None present
Swagelok SAF 2507 Super Duplex Tubing	MS-02-151	None present
Ultra-High Purity Gas Filters, SCF Series	MS-02-156	None present
High-Flow, Manual Gas Pressure Regulators, HF Series	MS-02-157	Lead in brass components
Pressure Gauges, Ultrahigh-Purity and Clean Dry Air	MS-02-163	None present
Pressure Gauges, Industrial and Process, PGI Series	MS-02-170	None present
Ultrahigh-Purity Fluoropolymer Diaphragm Valves, DRP Series	MS-02-171	None present
Gaugeable Chromatograph and Column End Fittings	MS-02-173	None present
Valve Lockout Accessory	MS-02-18	None present
Swagelok Products Compliant With The Transportable Pressure Equipment Directive (TPED)	MS-02-193	Cadmium plating on steel fasteners Cadmium plating on end caps and neck rings
High-Purity PFA Fine Thread Flare Fittings	MS-02-195	None present
Ultrahigh-Purity Fluoropolymer Tubing	MS-02-196	Tools have not been evaluated
Flange Adapters	MS-02-200	None present
Distribution Manifold, J6 Series	MS-02-214	None present
Forged-Body Needle Valves, 10 000 psig (689 bar), F10 Series	MS-02-215	None present
Steam Trap Test Station with Universal Mount	MS-02-221	Cadmium plating on steel fasteners
Industrial Pressure Transducers, S Model, E Model, T Model	MS-02-225	PENDING supplier response

Table 1 (cont.)

All products in the listed catalogs do not contain SVHCs above the 0.1% threshold established by the REACH regulation unless otherwise indicated in this table.		
Catalog Description	Catalog #	SVHC above threshold in component
Pressure Regulators, K Series	MS-02-230	Lead in brass and bronze components See Appendix A for additional exceptions
High-Flow Springless Diaphragm Valve, DF Series	MS-02-24	None present
60 Series Ball Valve Vent Options	MS-02-28	None present
Ultrahigh-Purity Valves for Atomic Layer Processing, ALD Series	MS-02-301	Lead in Optical Position Sensors and Optical Sensor Amplifiers Lead in Solenoid Pilot Valve brass components
Swagelok Alternative Fuel Service (AFS) Ball Valves for High-Pressure, High-Flow Applications	MS-02-303	None present See MS-02-343 notes for actuated options
General Utility Service Needle Valves, GU Series	MS-02-312	None present
Pre-Insulated Tubing Bundles, Light, Heavy, and Electric Traced	MS-02-316	None present
Ultrahigh-Purity Fluoropolymer O-Ring Free Check Valve	MS-02-320	Tube Flaring System has not been evaluated
DP Series Springless Diaphragm Valves (1.125 in.)	MS-02-325	None present
Stream Selector System for Process Analyzer Applications, SSV Series	MS-02-326	None present
One-Piece Instrumentation Ball Valves, 40G Series and 40 Series	MS-02-331	Lead in brass components See MS-02-343 notes for actuated options Note: Brass 40 series handle insert does not contain lead
Gaugeable Alloy 400 Mechanically Attached Pipe and Tube Fittings	MS-02-332	Tools have not been evaluated
Pressure Gauges for Panel Buildings, PBG Series	MS-02-333-E	None present
Process Interface Valves, Kenmac Series Process Interface Valves and Process and Instrument Monoflanges	MS-02-340	None present
Swagelok Ball Valve Actuation Options	MS-02-343	Lead in bronze components Cadmium plating on internal screws, cap screws, and retaining rings Lead in brass and carbon steel mounting bracket kit components
Multipurpose Ball Valves, SK Series	MS-02-345	None present See MS-02-343 notes for actuated options
Variable Area Flowmeters, G Series and M Series	MS-02-346	Lead in brass and carbon steel mounting bracket kit components
Temperature Measurement Devices, Bimetal Thermometers and Thermowells	MS-02-353	PENDING supplier response
Compact Gauge Valves for Gauge Isolation and Venting	MS-02-355	Lead in brass and carbon steel components Cadmium plating on steel fasteners
Bleed Valves, Special Alloy Materials, BV Series	MS-02-356	None present
Trunnion Ball Valves, Special Alloy Materials, 83 Series	MS-02-357	None present See MS-02-343 notes for actuated options Note: Brass 83 series handle insert does not contain lead
Fluid Distribution Header, FDH	MS-02-358	FDH header is compliant. Reference individual product series for valves.
Dielectric Fittings	MS-02-36	None present
Pressure Gauges, General Purpose Gauge with ECE R110 Approval, PGN Series	MS-02-363	None present
Positionable Pressure Gauges, PPG Series, Models B, P, and S	MS-02-364	None present



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All products in the listed catalogs do not contain SVHCs above the 0.1% threshold established by the REACH regulation unless otherwise indicated in this table.		
Catalog Description	Catalog #	SVHC above threshold in component
Severe-Service Union Bonnet Needle Valves, Special Alloy Materials, N Series and HN Series	MS-02-365	Cadmium plating on steel fasteners
Springless Diaphragm Valves (1.125 in.) for Modular Gas Systems, DE Series	MS-02-366	Actuated options: DEHP in visual indicators (BN-90-8-009-GR)
B Type VCO L-Ring Face Seal Fittings	MS-02-40	None present
Tube Facing Tools	MS-02-426	Lead in carbon steel components
Pressure Regulators, RHPS Series	MS-02-430	Antitamper and factory set options contain lead, DEHP in BN-90-OR-009-BG, submit Flowan with Swagelok part number to Compliance for assessment
Tank Blanketing Pressure Regulators, RHPS Series	MS-02-431	Antitamper and factory set options contain lead
Proportional Safety Relief Valves, PRV Series	MS-02-432	Lead in lock wire crimp
Sanitary Pressure Regulators, RHPS Series	MS-02-436	Antitamper and factory set options contain lead
Jacketed Tube Connector (JTC)	MS-02-438	None present
Special Alloy Ball Valves, 60 Series	MS-02-439	None present See MS-02-343 notes for actuated options
Check Valves, Special Alloy Materials, CH Series	MS-02-440	None present
Instrument Manifolds Systems--Instrument, Direct, and Remote-Mount Manifolds and Modular Systems	MS-02-445	Mounting kits and accessories have not been evaluated
Medium- and High-Pressure Fittings, Tubing, Valves, and Accessories	MS-02-472	Lead in carbon steel and bronze components Cadmium plating on steel fasteners Lead in factory set options
Cone and Thread Fittings -- Alloy SAF 2507 Material	MS-02-474	Tools have not been evaluated
6-Moly Seamless Tubing	MS-02-478	None present
Fire Series Ball Valves, A60T Series	MS-02-47-E	Lead in carbon steel components See MS-02-343 notes for actuated options
Low Pressure Header	MS-02-480	LPH header is compliant. Reference individual product series for valves.
Subsea Weld Fittings	MS-02-481	Tools have not been evaluated
General Service Ball Valves, GB	MS-02-484	None Present See MS-02-343 notes for actuated options
Bellows-Sealed Valves for Switching Service, BY Series	MS-02-58	None present
Vertical Flow Sensor, FV4 Series	MS-02-60-SCS	None present
Solenoid Valves for Electropneumatically Actuated Bellows and Diaphragm Valves	MS-02-70	None present
Coaxial Closure Fittings	MS-02-71	None present
Gas Filters, FC Series	MS-02-82	None present
All-Welded Check Valves, CW Series	MS-02-89	None present
Pressure Gauges for the Sanitary Industries, PSD and PSF Series	MS-03-10	None present
Biopharm Fittings, TS Series	MS-03-13	None present
Vacuum Fittings, Adapter Fittings	MS-03-18	None present
Swagelok KCA Series Continuous Gas Delivery System	MS-18-01-E	Mounting plate is compliant. Reference individual product series.



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Please refer to SDS sheets on [www.Swagelok.com](http://www.Swagelok.com) under “Resources” area, for additional details. Please contact your authorized Swagelok representative for further assistance.

Sincerely,

A handwritten signature in black ink that reads "Steven J. Volcansek".

Steven J. Volcansek  
Manager- Corporate Compliance



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### Appendix A- Non-Compliant Pressure Regulators

Pressure regulators with the series, control range, inlet pressure, and Cv (as shown in the table below) do not comply with the material requirements of the REACH Directive due to the presence of Hexavalent Chromium

Series	Control Range	Inlet Pressure	Cv
KPR, KEV, KSV, KCY, KCM	0-500	6000	0.20
		3600 to 6000	0.50
KLF	0-250	All	All
KHF / KFB	0-250	All	1.00
KPP, KEV	0-2000	6000	0.06
			0.20
	0-3000	4000 to 6000	All
0-3600	All		
KPF	0-3000	6000	1.00
			0.06
	0-4000	6000	0.20
			1.00
KPB	3000	6000	.06
			.20
	4000	6000	.06
			.20
			1.00