



Viton™ FreeFlow™

Fluoroelastomers

RoHS, WEEE, and ELV Directives

Technical Information

Cadmium, hexavalent chromium, lead, mercury and their compounds, polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs) are not intentionally added to the products listed below:

Viton™ FreeFlow™ 10
Viton™ FreeFlow™ 10-PL025
Viton™ FreeFlow™ 23
Viton™ FreeFlow™ 40
Viton™ FreeFlow™ GB-PL200i
Viton™ FreeFlow™ RC
Viton™ FreeFlow™ RC-PW080
Viton™ FreeFlow™ Z100
Viton™ FreeFlow™ Z200
Viton™ FreeFlow™ Z210

Samples representative of the Viton™ FreeFlow™ products listed above have been analyzed for metals content to ensure potential trace contamination levels are below the required limits. The levels of heavy metals, if present at all, were below the limits of the following directives:

RoHS and WEEE/Directives on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2002/95/EC) and Directive on Waste Electrical and Electronic Equipment (2002/96/EC) as amended by European directive 2005/618/EC.

As enacted by member states, this directive restricts or prohibits a producer from placing new electronic or electrical equipment containing cadmium, hexavalent chromium, lead, mercury, PBB, and PBDE in amounts exceeding the set maximum concentration values on the market in the EU. The European Council has amended the RoHS Annex (2005/618/EC) to set maximum concentration value of 0.1% by weight in homogeneous

materials for lead, mercury, hexavalent chromium, PBB, and PBDE and 0.01% by weight in homogeneous materials for cadmium.

ELV/Directive 2000/53/EC, End-of-Life Vehicles Directive as amended by European directive 2002/525/EC.

When enacted in member states, this directive will require that the maximum concentration value up to 0.1% by weight and per homogeneous materials for lead, hexavalent chromium, and mercury and up to 0.01% by weight per homogeneous material for cadmium shall be tolerated, provided these substances are not intentionally introduced. A homogeneous material is a material that cannot be mechanically broken down into different materials. The term "homogeneous" basically means of uniform composition throughout. "Mechanically broken down" means separating by mechanical action, e.g., unscrewing, shredding, cutting, crushing, grinding, or abrasion.

Regarding the presence of PBB and PBDE for the RoHS requirement, CAS numbers are required to ensure proper chemical identification. Therefore, the composition of the Viton™ FreeFlow™ products listed above were checked against the following CAS numbers (see Table 1).

The results of this assessment indicate that PBBs and PBDEs are not intentionally added during the production of Viton™ FreeFlow™ products listed above. In addition, to the best of our knowledge, these substances are not present in any of our raw materials. However, we do not test for their presence.



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Table 1.

Polybrominated Biphenyls (PBBs)		Polybrominated Diphenyl Ethers (PBDEs)	
Chemical	CAS #	Chemical	CAS #
Bromobiphenyl (2-bromobiphenyl)	2052-07-5	Bromobiphenyl ether	101-55-3
Bromobiphenyl (3-bromobiphenyl)	2113-57-7	Decabromobiphenyl ether	1163-19-5
Bromobiphenyl (4-bromobiphenyl)	92-66-0	Dibromophenyl ether	2050-47-7
Decabromobiphenyl	13654-09-6	Heptabromobiphenyl ether	68928-80-3
Dibromobiphenyl	92-86-4	Hexabromobiphenyl ether	36483-60-0
Hexabromobiphenyl	59080-40-9	Nonabromobiphenyl ether	63936-56-1
Hexabromo-1,1'-biphenyl	36355-01-8	Octabromobiphenyl ether	32536-52-0
Firemaster FF-1	67774-32-7	Pentabromobiphenyl ether (complex mix of brominated diphenyloxides)	32534-81-9
Octabromobiphenyl	61288-13-9		
Nonabromobiphenyl	27753-52-2	Tetrabromobiphenyl ether	40088-47-9
Heptabromobiphenyl	35194-78-6	Tribromobiphenyl ether	49690-94-0
Pentabromobiphenyl	56307-79-0	Benzene, 1,1'-oxybis-, bromo derivs.	90193-67-2
Tetrabromobiphenyl	40088-45-7		
Polybrominated Biphenyls	59536-65-1		

For more information, visit Viton.com

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Replaces: VFE-A10484-00-00710

C-10962 (8/16)