

**PARKER HANNIFIN CORPORATION, CHOMERICS DIVISION  
PRODUCT/PACKAGING  
ENVIRONMENTAL QUALITY REQUIREMENTS**

**PURPOSE**

The purpose of this document is to communicate Environmental Quality Requirements for materials and packaging supplied to Parker Hannifin Corporation, Chomerics Division (Chomerics).

- All materials and packaging supplied to Chomerics must comply with Sections A through E.
- Materials supplied to Chomerics must comply with one or more of Sections F through H where specifically called out on the purchase order.
- Any exceptions to applicable Sections need to be communicated back to the Buyer or Requestor as appropriate.
- Unless exceptions are noted, it is assumed materials and packaging are compliant with all applicable Sections.

**A. ROHS (Restriction Of the use of certain Hazardous Substances) – EU Directive 2002/95/EC**

- Six chemicals/chemical categories must not be present in homogeneous materials above the following limits.
  - Cadmium <100 ppm.
  - Hexavalent Chromium, Mercury, Lead, Poly Brominated Biphenyls (PBB, Poly Brominated Diphenyl Ethers (PBDE) <1,000 ppm.
- Does not apply to packaging materials.
  - (a) Homogeneous materials are materials that cannot be broken down into their component parts (e.g., copper foil, coatings, and coated fabrics).

**B. PFOS (Perfluorooctanesulfonates) Ban in Textiles and Consumer Products – EU Directive 2006/122/EC**

- PFOS concentrations must not exceed the following limits in parts and materials supplied to Chomerics:
  - 0.005% in mixtures (such as paints, caulks)
  - 0.1% in articles
  - 1 ug/square meter in coated materials.
- Does not apply to packaging materials.

**C. REACH (Registration, Evaluation, and, Authorisation, of Chemicals) – EU Directive 2006/1907/EC**

- All Substances in non-articles are or will be pre-Registered or Registered by the Supplier, or their upstream Suppliers, and must be disclosed to Chomerics.
- Concentration of Substances of Very High Concern (SVHC) in article material(s) must be disclosed to Chomerics.

**(a) Article** – A material given a specific shape, surface, or design that determines its function (such as cured elastomers, gaskets, and sheetstock).

**(b) Substance** – A chemical including impurities, such as metals and solvents.

**(c) Substances of Very High Concern (SVHC)**– Chemicals that are:

Carcinogenic, Mutagenic, and/or toxic for Reproduction (CMR Chemicals)

Persistent, Bioaccumulative, and/or toxic (PBT chemicals) - may include metals such as nickel and arsenic and many halogenated chemicals.

**ECHA Candidate List SVHCs as of 12/19/2011**

Visit [http://ec.europa.eu/environment/chemicals/reach/reach\\_intro.htm](http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm). For more information.

	Chemical	EC CAS #	Date of Inclusion	Concentration if Present
1	4,4'- Diaminodiphenylmethane (MDA)	202-974-4	10/28/2008	
2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	10/28/2008	
3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	10/28/2008	
4	Anthracene	204-371-1	10/28/2008	
5	Benzyl butyl phthalate (BBP)	201-622-7	10/28/2008	
6	Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	10/28/2008	
7	Bis(tributyltin)oxide (TBTO)	200-268-0	10/28/2008	
8 & 52	Cobalt dichloride	231-589-4	10/28/2008 & 6/20/2011	
9	Diarsenic pentaoxide	215-116-9	10/28/2008	
10	Diarsenic trioxide	215-481-4	10/28/2008	
11	Dibutyl phthalate (DBP)	201-557-4	10/28/2008	
12	Hexabromocyclododecane (HBCDD)	247-148-4 and 221-695-9	10/28/2008	
13	Lead hydrogen arsenate	232-064-2	10/28/2008	
14	Sodium dichromate	234-190-3	10/28/2008	
15	Triethyl arsenate	427-700-2	10/28/2008	
16	2,4-Dinitrotoluene	204-450-0	1/13/2010	
17	Aluminosilicate Refractory Ceramic Fibres	-	1/13/2010	
18	Anthracene oil	292-602-7	1/13/2010	
19	Anthracene oil, anthracene-low	292-604-8	1/13/2010	
20	Anthracene oil, anthracene paste	292-603-2	1/13/2010	

21	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	1/13/2010	
22	Anthracene oil, anthracene paste, distn. Lights	295-278-5	1/13/2010	
23	Diisobutyl phthalate	201-553-2	1/13/2010	
24	Lead chromate	231-846-0	1/13/2010	
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	1/13/2010	
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1/13/2010	
27	Pitch, coal tar, high temp.	266-028-2	1/13/2010	
28	Tris(2-chloroethyl)phosphate	204-118-5	1/13/2010	
29	Zirconia Aluminosilicate Refractory Ceramic Fibres	-	1/13/2010	
30	Acrylamide	201-173-7	3/30/2010	
31	Trichloroethylene	201-167-4	6/18/2010	
32	Boric acid	233-139-2 / 234-343-4	6/18/2010	
33	Disodium tetraborate, anhydrous	215-540-4	6/18/2010	
34	Tetraboron disodium heptaoxide, hydrate	235-541-3	6/18/2010	
35	Potassium dichromate	231-906-6	6/18/2010	
36	Ammonium dichromate	232-143-1	6/18/2010	
37	Potassium chromate	232-140-5	6/18/2010	
38	Sodium chromate	231-889-5	6/18/2010	
39	Chromic acid,	7738-94-5 / 13530-68-2	10/15/2010	
40	Chromium trioxide	1333-82-0	12/15/2010	
41	2-Ethoxyethanol	110-80-5	12/15/2010	
42	2-Methoxyethanol	109-86-4	12/15/2010	
43	Cobalt(II) diacetate	71-48-7	12/15/2010	
44	Cobalt(II) carbonate	513-79-1	12/15/2010	
45	Cobalt(II) dinitrate	10141-05-6	12/15/2010	
46	Cobalt(II) sulphate	10124-43-3	12/15/2010	
47	1,2,3-Trichloropropane	96-18-4	6/20/2011	
48	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	6/20/2011	
49	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	6/20/2011	
50	1-Methyl-2-pyrrolidone	872-50-4	6/20/2011	
51	2-Ethoxyethyl acetate	111-15-9	6/20/2011	
52 & 8	Cobalt dichloride	7646-79-9	6/20/2011 & 10/28/2008	
53	Hydrazine	302-01-2 / 7803-57-8	6/20/2011	
54	Strontium chromate	2151068	6/20/2011	
73	Zirconia Aluminosilicate Refractory Ceramic Fibres		12/19/2011	
56	Bis(2-methoxyethyl) ether	111-96-6	12/19/2011	
57	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	12/19/2011	

58	Lead dipicrate	6477-64-1	12/19/2011	
59	N,N-dimethylacetamide	127-19-5	12/19/2011	
60	Arsenic acid	7778-39-4	12/19/2011	
61	2-Methoxyaniline; o-Anisidine	90-04-0	12/19/2011	
62	Trilead diarsenate	3687-31-8	12/19/2011	
63	1,2-dichloroethane	107-06-2	12/19/2011	
64	Pentazinc chromate octahydroxide	49663-84-5	12/19/2011	
65	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	12/19/2011	
66	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	12/19/2011	
67	Bis(2-methoxyethyl) phthalate	117-82-8	12/19/2011	
68	Lead diazide, Lead azide	13424-46-9	12/19/2011	
69	Lead styphnate	15245-44-0	12/19/2011	
70	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	12/19/2011	
71	Phenolphthalein	77-09-8	12/19/2011	
72	Dichromium tris(chromate)	24613-89-6	12/19/2011	

#### D. Hazard Communication – OSHA 1910.1200

- Each shipment of non-article material must be accompanied by an OSHA compliant Material Safety Data Sheet (MSDS).
- Each container must have compliant hazard communication labeling in English.
- All Substances in non-article material must be listed in the Toxic Substances Control Act (TSCA) List.
- Suppliers must inform Chomerics of TSCA 12(b) Export Notification Requirements for Substances in non-article material.

#### E. Requirements for Packaging Materials:

- The combined concentration of cadmium, lead, mercury, and hexavalent chromium must be <100 ppm in packaging materials supplied to Chomerics.
- PVC cable ties are prohibited.
- PVC packaging materials other than PVC cable ties are acceptable if the PVC content of the packaging materials is reported to Chomerics.

Packaging materials are defined as any material to be used for the containment, protection, handling, labeling, marking, delivery and presentation of Chomerics products. Returnable packaging materials to be used to be used for Chomerics products are exempt.

## F. Halogen Free – International Electrochemical Commission Halogen Free Specification 61249-2-21

- Total chlorine concentration in each homogeneous material <900 ppm.
- Total bromine concentration in each homogeneous material <900 ppm.
- Total halogen concentration in each homogeneous material <1,500 ppm.

## G. Chomerics Substance Requirements

- **Level 1:** The following substances are banned for use in parts and materials delivered to Chomerics when this section is referenced in the Purchase Order.

Cadmium and cadmium compounds  
Cobalt Dichloride (used as a moisture indicator in dessicants)  
Lead and lead compounds  
Mercury and mercury Compounds  
Hexavalent chromium compounds  
Ozone Depleting Substances (ODS)  
Polychlorinated biphenyls (PCB)  
Polychlorinated naphtalenes (PCN)  
Polychlorinated terphenyls (PCT)  
Short-chain chlorinated parrafins (SCCP)  
Polybrominated biphenyls (PBB)  
Polybrominated diphenylethers (PBDE)  
Tributyl tin (TBT)  
Triphenyl tin (TPT)  
Asbestos  
Formaldehyde  
Polyvinyl chloride (PVC) and PVC blends  
Beryllium oxide  
Hydrofluorocarbons (HFC), Perfluorocarbon (PFC)  
Specific Benzotriazole (CAS 3846-71-7)

- **Level 2:** The following Substances will become LEVEL 1 Substances on the given date for parts and materials delivered to Chomerics when this section is referenced in the Purchase Order.

Cobalt Dichloride (used in moisture indicator paper) – 4/1/11  
PFOS (Perfluorooctanesulfonates) in Packaging – 4/1/10  
Dibutyltin Tin (all applications including additives of plastics) – 7/1/11  
Diocetyl Tin (additives of textiles) – 7/1/11

- **Level 3:** The following substances will become LEVEL 2 substances in phases depending on the availability of alternative parts and materials that satisfy the intended uses. Chomerics must be informed if they are intentionally used, and are present in parts and materials delivered to Chomerics when this section is referenced in the Purchase Order.

Beryllium Copper  
 Specific phthalates (DEHP, DBP, BBP, DINP, DNOP, DNHP)  
 Other chlorinated organic compounds  
 Other brominated organic compounds  
 Azo compounds with the following CAS Numbers

92-67-1	106-47-8	838-88-0	95-80-7	97-56-3	119-90-4
92-87-5	615-05-4	120-71-8	137-17-7	99-55-8	119-93-7
95-69-2	101-77-9	101-14-4	90-04-0	139-65-1	
91-59-8	91-94-1	101-80-4	60-09-3	95-53-4	

- **Exemptions:** Specific exemptions apply for several substances in various levels that are too numerous to list here. Acceptance of materials and packaging on the basis of exemptions will be made on a case-by case basis.

#### H. Specific IMDS Declaration Requirements

The Supplier must disclose concentrations of all Substances contained in Article and Non-Article Materials sold to Chomerics.

#### REVISION HISTORY

Revision Number & Issue Date	Description
0, 7/3/08	Original Issue Date
1, 7/10/08	Purpose Section – Replaced “at the direction of the Chomerics Buyer” with “where specifically called out on the purchase order.”
2, 8/26/08	Added REACH and Hazard Communication Requirements to be applicable to all materials.  Added IEC Halogen Free, and IBM REACH Requirements to be applicable as called for in the Purchase Order.
3, 1/20/09	Moved Beryllium Copper and Specific Phthalates from Level 1 to their correct Level 3 status. Added Specific Benzotriazole (CAS 3846-71-7) to Level 1  Changed Title of Section G
4, 4/28/09	Changes to Chomerics Substance Requirements: <ul style="list-style-type: none"> <li>• Level 1 Additions – Cobalt Dichloride in dessicant agents, Ozone Depleting Substances</li> <li>• Level 2 Additions – PFOS in Packaging</li> </ul>
5, 8/10/09	Added Automotive IMDS Specific Substance Requirements (Restricted and Forbidden)

6, 7/12/10	6/18/10 eight additional Candidate List SVHCs added to the ECHA website. Added these eight to flowdown. Refer customers to The ECHA site for more information with a link.
7, 10/18/10	Added Suppliers must inform Chomerics of TSCA 12(b) Export Notification requirements for all Substances in non-article materials.
8, 12/15/10	8 New Candidate List SVHCs Added
9, 6/20/2011	8 New Candidate List SVHCs Added
10, 12/19/2011	20 New Candidate List SVHCs Added