

ASSESSMENT REPORT

PROPOSAL IN COMPLIANCE WITH REACH

Product Name: Hybrid Stepping Motor & DC Brushless Motor

Manufacturer: CHANGZHOU FULLING MOTOR CO., LTD.

Prepared by:

REACH24H Consulting Group

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ASSESSMENT REPORT

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We REACH24H have been commissioned by the manufacturer (CHANGZHOU FULLING MOTOR CO., LTD.) to conduct REACH compliance assessment on their products. We REACH24H have assessed the manufacturer's product under the European Regulation 1907/2006 (EC) (here in after referred as REACH Regulation). The result and findings of the assessment and proposals are described as follows:

1. Manufacturer's Information

Name:	CHANGZHOU FULLING MOTOR CO., LTD.
Address:	No.69, Kunlun Rd., Xinbei District, Changzhou City, Jiangsu Province, P. R. China
Name of the contact person:	Yufen Yang
Tel:	86 519 8513 2957

2. Product Identification

Product name:	Hybrid Stepping Motor & DC Brushless Motor
Type/ model:	/
Physical appearance/color/ odour:	Black and silver-white
Product type:	Article

3. Responsibilities and Obligations

3.1 Registration

- a) According to Article 5 of REACH Regulation, substances on their own, in mixtures or in articles shall not be manufactured in the Community or placed on the market unless they have been registered in accordance with the relevant provisions of this Title where this is required.
- b) According to Article 6 of REACH Regulation, any manufacturer or importer of a substance, either on its own or in one or more mixture, in quantities of one tonne or more per year shall submit a registration to the Agency.
- c) According to Article 7 of REACH Regulation, any producer or importer of articles shall submit a registration to the Agency for any substance contained in those articles, if both the following conditions are met:
 - ◆ the substance is present in those articles in quantities totalling over one tonne per producer or importer per year;
 - ◆ the substance is intended to be released under normal or reasonably foreseeable conditions of use.

- d) According to Article 2 and Article 6 of REACH Regulation, if the product is a polymer, the Registration obligation is not required, but the monomer substances consist the polymer shall meet the registration requirements.

3.2 Information Communication down the Supply Chain

If manufacturer's products meet the criteria of Article 31 of the REACH Regulation duty to communicate information on substances in mixture, a safety data sheet is needed. If the safety data sheet is not required, should fulfill related obligations according to Article 32, duty to communicate information down the supply chain for substances on their own or in articles for which a safety data sheet is not required.

3.3 Notification

If the manufacturer's product is defined as "article" under REACH Regulation, and there is any SVHC contained in the product, and the SVHC is present in those articles in quantities totalling over one tonne per producer or importer per year, then the obligation of notification is required according to Article 7 under REACH Regulation.

3.4 Authorization

According to Article 56 of REACH Regulation, A manufacturer, importer or downstream user shall not place a substance on the market for a use or use it himself if that substance is included in Annex XIV.

3.5 Restriction

According to Article 67 of REACH Regulation, A substance on its own, in a mixture or in an article, for which Annex XVII contains a restriction shall not be manufactured, placed on the market or used unless it complies with the conditions of that restriction. This shall not apply to the manufacture, placing on the market or use of a substance in scientific research and development.

4. Results

From the full materials declaration in Annex 1 and the comparative result in Table 1, we could get a conclusion that no concerned substances would be brought into the products.

Table 1: Compare Hybrid Stepping Motor & DC Brushless Motor with list of SVHC

No.	Substance Name	EC No.	CAS No.	Date of Listed	Whether the product contained or not
174	PFHxS	-	-	2017/7/7	/
173	4,4'-isopropylidenediphenol (bisphenol A)	201-245-8	80-05-7	2017/1/12	/
172	4-heptylphenol, branched and linear (4-HPbl)	-	-	2017/1/12	/
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	-; 221-470-5; 206-400-3	3830-45-3; 3108-42-7; 335-76-2	2017/1/12	/
170	4-tert-pentylphenol(PTAP)	201-280-9	80-46-6	2017/1/12	/

169	Benzo[def]chrysene (Benzo[a]pyrene)	200-028-5	50-32-8	2016/6/20	/
168	Perfluorononan-1-oic-acid and its sodium and ammonium saltspropanesultone	206-801-3	375-95-1; 21049-39-8; 4149-60-4	2015/12/17	/
167	1,3-propanesultone	214-317-9	1120-71-4	2015/12/17	/
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	253-037-1	36437-37-3	2015/12/17	/
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl) phenol (UV-327)	223-383-8	3864-99-1	2015/12/17	/
164	Nitrobenzene	202-716-0	98-95-3	2015/12/17	/
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-me thyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-me thyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	-	-	2015/6/15	/
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate	271-094-0; 272-013-1	68515-51-5; 68648-93-1	2015/6/15	/
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3, 5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl] thio]-4-octyl-7-oxo-8-oxa-3, 5-dithia-4-stannatetradecanoate	-	-	2014/12/17	/
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3, 5-dithia-4-stannatetradecanoate	239-622-4	15571-58-1	2014/12/17	/
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	247-384-8	25973-55-1	2014/12/17	/
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol	223-346-6	3846-71-7	2014/12/17	/
157	Cadmium sulphate	233-331-6	10124-36-4; 31119-53-6	2014/12/17	/
156	Cadmium fluoride	232-222-0	7790-79-6	2014/12/17	/

155	Sodium perborate; Perboric acid, sodium salt	239-172-9; 234-390-0	-	2014/6/16	/
154	Sodium peroxometaborate	231-556-4	7632-04-4	2014/6/16	/
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4	2014/6/16	/
152	Cadmium chloride	233-296-7	10108-64-2	2014/6/16	/
151	Trixylyl phosphate	246-677-8	25155-23-1	2013/12/16	/
150	Lead di(acetate)	206-104-4	301-04-2	2013/12/16	/
149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	202-506-9	96-45-7	2013/12/16	/
148	Disodium 4-amino-3-[[4'-(2,4-diaminophenyl)azo] [1,1'-biphenyl]-4-yl] azo]-5-hydroxy-6-(phenylazo) naphthalene-2,7-disulphonate (C.I. Direct Black 38)	217-710-3	1937-37-7	2013/12/16	/
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)] bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0	2013/12/16	/
146	Dihexyl phthalate	201-559-5	84-75-3	2013/12/16	/
145	Cadmium sulphide	215-147-8	1306-23-6	2013/12/16	/
144	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1	2013/6/20	/
143	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1	2013/6/20	/
142	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol ethoxylated covering UVCB- and well-defined substances, polymers and homologues]	-	-	2013/6/20	/
141	DPP	205-017-9	131-18-0	2013/6/20	/
140	Cadmium oxide	215-146-2	1306-19-0	2013/6/20	/

139	Cadmium	231-152-8	7440-43-9	2013/6/20	/
138	N-methyl acetamide	201-182-6	79-16-3	2012/12/19	/
137	O-toluidine	202-429-0	95-53-4	2012/12/19	/
136	O-aminoazotoluene	202-591-2	97-56-3	2012/12/19	/
135	Biphenyl-4-ylamine	202-177-1	92-67-1	2012/12/19	/
134	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8	2012/12/19	/
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7	2012/12/19	/
132	4-aminoazobenzene	200-453-6	1960-9-3	2012/12/19	/
131	4,4'-oxydianilineanditssalts	202-977-0	101-80-4	2012/12/19	/
130	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0	2012/12/19	/
129	Dinoseb(6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7	2012/12/19	/
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2	2012/12/19	/
127	Dimethyl sulphate	201-058-1	77-78-1	2012/12/19	/
126	Diethyl sulphate	200-589-6	64-67-5	2012/12/19	/
125	Furan	203-727-3	110-00-9	2012/12/19	/
124	Trilead dioxide phosphonate	235-252-2	12141-20-7	2012/12/19	/
123	Tetralead trioxide sulphate	235-380-9	12202-17-4	2012/12/19	/
122	Tetraethyl lead	201-075-4	78-00-2	2012/12/19	/
121	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7	2012/12/19	/
120	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8	2012/12/19	/
119	Pentalead tetraoxide sulphate	235-067-7	12065-90-6	2012/12/19	/
118	Lead dinitrate	233-245-9	10099-74-8	2012/12/19	/
117	Lead cyanamidate	244-073-9	20837-86-9	2012/12/19	/

116	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8	2012/12/19	/
115	Dioxobis(stearato)trilead	235-702-8	12578-12-0	2012/12/19	/
114	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9	2012/12/19	/
113	Lead oxide sulfate	234-853-7	12036-76-9	2012/12/19	/
112	Acetic acid, lead salt, basic	257-175-3	51404-69-4	2012/12/19	/
111	1,2-Diethoxyethane	211-076-1	629-14-1	2012/12/19	/
110	N-pentyl-isopentylphthalate	-	776297-69-9	2012/12/19	/
109	Diisopentylphthalate	210-088-4	605-50-5	2012/12/19	/
108	1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear	284-032-2	84777-06-0	2012/12/19	/
107	Methyloxirane (Propyleneoxide)	200-879-2	75-56-9	2012/12/19	/
106	1-bromopropane(n-propylbromide)	203-445-0	106-94-5	2012/12/19	/
105	Silicic acid (H ₂ Si ₂ O ₅), bariumsalt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for' toxicity for reproduction 'Repr.1A(CLP)orcategory1(DSD); The substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No1272/2008]	272-271-5	68784-75-8	2012/12/19	/
104	Silicic acid, lead salt	234-363-3	11120-22-2	2012/12/19	/
103	Lead titanium zirconium oxide	235-727-4	12626-81-2	2012/12/19	/
102	Lead titanium trioxide	235-038-9	12060-00-3	2012/12/19	/
101	Trilead bis(carbonate) dihydroxide	215-290-6	1319-46-6	2012/12/19	/
100	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	2012/12/19	/
99	Orange lead (Lead tetroxide)	215-235-6	1314-41-6	2012/12/19	/
98	Lead monoxide (Lead oxide)	215-267-0	1317-36-8	2012/12/19	/

97	Dibutyltin dichloride(DBT)	211-670-0	683-18-1	2012/12/19	/
96	N, N-dimethylformamide	200-679-5	1968-12-2	2012/12/19	/
95	Methoxyacetic acid	210-894-6	625-45-6	2012/12/19	/
94	4-(1,1,3,3-tetramethylbutyl) phenol	205-426-2	140-66-9	2012/12/19	/
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB-and well-defined substances which include any of the individual isomers or a combination thereof]	-	-	2012/12/19	/
92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalicanhydride[2], Hexahydro-1-methylphthalicanhydride[3],Hexahydro-3-methylphthalicanhydride[4][The individual isomers[2],[3] and [4](including theircis-and trans-stereoisomericforms)and all possible combination softheisomers[1]are covered by this entry]	247-094-1; 243-072-0; 256-356-4; 260-566-1	25550-51-0; 19438-60-9; 48122-14-1; 57110-29-9	2012/12/19	/
91	Cyclohexane-1,2-dicarboxylicanhydride [1] cis-cyclohexane-1,2-dicarboxylicanhydride[2] trans-cyclohexane-1,2-dicarboxylicanhydride[3] [Theindividualcis-[2]andtrans-[3]isomer substances and all possible combination softhecis-and trans-isomers[1] are covered by this entry].	201-604-9; 236-086-3; 238-009-9	85-42-7; 13149-00-3; 14166-21-3	2012/12/19	/
90	Diazeno-1,2-dicarboxamide (C, C'-azodi(formamide))	204-650-8	123-77-3	2012/12/19	/
89	Heptacosafuorotetradecanoic acid	206-803-4	376-06-7	2012/12/19	/
88	Henicosafuoroundecanoic acid	218-165-4	2058-94-8	2012/12/19	/
87	Tricosafuorododecanoic acid	206-203-2	307-55-1	2012/12/19	/
86	Pentacosafuorotridecanoic acid	276-745-2	72629-94-8	2012/12/19	/

85	Bis(pentabromophenyl) ether (decabromodiphenylether; DecaBDE)	214-604-9	1163-19-5	2012/12/19	/
84	4,4'-bis(dimethylamino)-4''-(methylamino) trityl alcohol [with $\geq 0.1\%$ of Michler's ketone (EC No.202-027-5) or Michler's base (EC No.202-959-2)]	209-218-2	561-41-1	2012/06/18	/
83	α , α -Bis[4-(dimethylamino) phenyl]-4 (phenylamino) naphthalene-1-methanol (C.I. Solvent Blue4) [with $\geq 0.1\%$ of Michler's ketone (ECNo.202-027-5) or Michler's base (EC No.202-959-2)]	229-851-8	6786-83-0	2012/06/18	/
82	[4-[[4-anilino-1-naphthyl] [4-(dimethylamino) phenyl] methylene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with $\geq 0.1\%$ of Michler's ketone (ECNo.202-027-5) or Michler's base (EC No.202-959-2)]	219-943-6	2580-56-5	2012/06/18	/
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet3) [with $\geq 0.1\%$ of Michler's ketone (ECNo.202-027-5) or Michler's base (ECNo.202-959-2)]	208-953-6	548-62-9	2012/06/18	/
80	N, N, N', N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1	2012/06/18	/
79	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	202-027-5	90-94-8	2012/06/18	/
78	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-tri azine-2,4,6-(1H,3H,5H)-trione (β -TGIC)	423-400-0	59653-74-6	2012/06/18	/
77	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2 ,4,6-trione (TGIC)	219-514-3	2451-62-9	2012/06/18	/
76	Lead(II) bis (methanesulfonate)	401-750-5	17570-76-2	2012/06/18	/
75	Formamide	200-842-0	75-12-7	2012/06/18	/

74	Diboron trioxide	215-125-8	1303-86-2	2012/06/18	/
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether(EGDME)	203-794-9	110-71-4	2012/06/18	/
72	1,2-bis(2-methoxyethoxy) ethane (TEGDME; triglyme)	203-977-3	112-49-2	2012/06/18	/
71	Lead dipicrate	229-335-2	6477-64-1	2011/12/19	/
70	Lead styphnate	239-290-0	15245-44-0	2011/12/19	/
69	Lead diazide, Lead azide	236-542-1	13424-46-9	2011/12/19	/
68	Phenolphthalein	201-004-7	77-09-8	2011/12/19	/
67	2,2'-dichloro-4,4'-methylenedianiline(MOCA)	202-918-9	101-14-4	2011/12/19	/
66	N, N-dimethylacetamide (DMAC)	204-826-4	127-19-5	2011/12/19	/
65	Trilead diarsenate	222-979-5	3687-31-8	2011/12/19	/
64	Calcium arsenate	231-904-5	7778-44-1	2011/12/19	/
63	Arsenic acid	231-901-9	7778-39-4	2011/12/19	/
62	Bis(2-methoxyethyl) ether	203-924-4	111-96-6	2011/12/19	/
61	1,2-Dichloroethane	203-458-1	107-06-2	2011/12/19	/
60	4-(1,1,3,3-tetramethylbutyl) phenol	205-426-2	140-66-9	2011/12/19	/
59	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0	2011/12/19	/
58	Bis(2-methoxyethyl) phthalate*	204-212-6	117-82-8	2011/12/19	/
57	Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4	2011/12/19	/
56	Zirconia Alumino silicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in AnnexVI,part3,table3.1 of Regulation (EC)No1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging	-	-	2011/12/19	/

	of substances and mixtures, and fulfill the three following conditions: a)oxides of aluminium and silicon are the main components present(in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm).c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight				
55	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in AnnexVI,part3,table3.1 of Regulation (EC)No1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the three following conditions: a)oxides of aluminium and silicon are the main components present(in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm).c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight	-	-	2011/12/19	/
54	Pentazinc chromate octahydroxide	256-418-0	49663-84-5	2011/12/19	/
53	Potassium Hydroxyoctaoxodizincate dichromate	234-329-8	11103-86-9	2011/12/19	/
52	Dichromium tris(chromate)	246-356-2	24613-89-6	2011/12/19	/
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)*	276-158-1	71888-89-6	2011/06/20	/
50	1,2,3-trichloropropane	202-486-1	96-18-4	2011/06/20	/

49	1-methyl-2-pyrrolidone	212-828-1	872-50-4	2011/06/20	/
48	Hydrazine	206-114-9	302-01-2; 7803-57-8	2011/06/20	/
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkylesters (DHNUP)	271-084-6	68515-42-4	2011/06/20	/
46	Strontium chromate	232-142-6	7789-6-2	2011/06/20	/
45	2-Ethoxyethylacetate	203-839-2	111-15-9	2011/06/20	/
44	Dichromic acid Oligomers of chromic acid and dichromic acid	231-801-5; 236-881-5	7738-94-5; 13530-68-2	2010/12/15	/
43	Cobalt(II) sulphate	233-334-2	10124-43-3	2010/12/15	/
42	Cobalt(II) dinitrate	233-402-1	10141-05-6	2010/12/15	/
41	Cobalt(II) carbonate	208-169-4	513-79-1	2010/12/15	/
40	Cobalt (II) diacetate	200-755-8	71-48-7	2010/12/15	/
39	2-Methoxyethanol	203-713-7	109-86-4	2010/12/15	/
38	2-Ethoxyethanol	203-804-1	110-80-5	2010/12/15	/
37	Chromium trioxide	215-607-8	1333-82-0	2010/12/15	/
36	Potassium dichromate	231-906-6	7778-50-9	2010/06/18	/
35	Ammonium dichromate	232-143-1	7789-09-5	2010/06/18	/
34	Potassium chromate	232-140-5	7789-00-6	2010/06/18	/
33	Sodium chromate	231-889-5	7775-11-3	2010/06/18	/
32	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1	2010/06/18	/
31	Disodium tetraborate, anhydrous	215-540-4	1303-96-4; 1330-43-4; 12179-04-3	2010/06/18	/
30	Boric acid	233-139-2; 234-343-4	10043-35-3; 11113-50-1	2010/06/18	/

29	Trichloroethylene	201-167-4	79-01-6	2010/06/18	/
28	Acrylamide	201-173-7	79-06-1	2010/03/30	/
27	Lead chromate	231-846-0	7758-97-6	2010/01/13	/
26	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	235-759-9	12656-85-8	2010/01/13	/
25	Lead sulfochromate yellow (C. I. Pigment Yellow34)	215-693-7	1344-37-2	2010/01/13	/
24	Tris(2-chloroethyl) phosphate(TCEP)	204-118-5	115-96-8	2010/01/13	/
23	coal tar pitch, high temperature	266-028-2	65996-93-2	2010/01/13	/
22	2,4-Dinitrotoluene	204-450-0	121-14-2	2010/01/13	/
21	Diisobutyl phthalate(DIBP)	201-553-2	84-69-5	2010/01/13	/
20	Anthracene oil, anthracene paste	292-603-2	90640-81-6	2010/01/13	/
19	Anthracene oil, anthracene-low	292-604-8	90640-82-7	2010/01/13	/
18	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2	2010/01/13	/
17	Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4	2010/01/13	/
16	Anthracene oil	292-602-7	90640-80-5	2010/01/13	/
15	Benzyl butyl phthalate(BBP)	201-622-7	85-68-7	2008/10/28	/
14	Lead hydrogen arsenate	232-064-2	7784-40-9	2008/10/28	/
13	Bis(tributyltin) oxide (TBTO)	200-268-0	56-35-9	2008/10/28	/
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8	2008/10/28	/
11	Hexabromocyclododecane(HBCDD) and all major diastereoisomers identified	247-148-4; 221-695-9	25637-99-4; 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	2008/10/28	/
10	Bis(2-ethylhexyl) phthalate(DEHP)	204-211-0	117-81-7	2008/10/28	/

9	5-tert-butyl-2,4,6-trinitro-m-xylene (Muskxylene)	201-329-4	81-15-2	2008/10/28	/
8	Sodium dichromate	234-190-3	7789-12-0; 10588-01-9	2008/10/28	/
7	Diarsenic trioxide	215-481-4	1327-53-3	2008/10/28	/
6	Diarsenic pentaoxide	215-116-9	1303-28-2	2008/10/28	/
5	Cobalt-dichloride	231-589-4	7646-79-9	2008/10/28	/
4	Dibutyl-phthalate(DBP)	201-557-4	84-74-2	2008/10/28	/
3	4,4'-Diaminodiphenylmethane (MDA)	202-974-4	101-77-9	2008/10/28	/
2	Anthracene	204-371-1	120-12-7	2008/10/28	/
1	Triethyl arsenate	427-700-2	15606-95-8	2008/10/28	/

Remark:

“/” means the product do not contain substance of very high concern listed in REACH Regulation as it currently stands;

List of SVHC are finalized by ECHA (As on Jul. 2017).

5. Assessment Conclusions

According to all information provided by the manufacturer and related suppliers, based on requirements of related Articles of REACH Regulation, we draw the conclusion that:

The products Hybrid Stepping Motor & DC Brushless Motor supplied by CHANGZHOU FULLING MOTOR CO., LTD. are complied with REACH Regulation as it currently stands.

Manufacturer’s Responsibilities and Obligations

5.1 Registration-Not required

According to REACH Regulation, the product Hybrid Stepping Motor & DC Brushless Motor are defined as “Article”, and there is no substance intended to be released under normal or reasonably foreseeable conditions of use, so there is no registration requirement for the product.

5.2 Information Communication down the Supply Chain-Required

According to all the information provided by the manufacturer, the manufacturer has obligations to provide the consumer with sufficient information, available to the supplier, to allow safe use of the product including, as a minimum, the name of that substance. Due to the product Hybrid Stepping Motor

& DC Brushless Motor are complicated Articles, and composed of many parts, so we suggest the manufacturer prepare technical documentation for each part.

5.3 Notification-Not required

As Hybrid Stepping Motor & DC Brushless Motor do not contain any substance listed in SVHC list of REACH Regulation, so there is no notification obligation required for the manufacturer.

5.4 Authorization-Not required

As Hybrid Stepping Motor & DC Brushless Motor do not contain any substance listed in Annex XIV of REACH Regulation, and the productive process of the product is not in EEA country, so there is no authorization obligation required for the manufacturer.

5.5 Restriction-Not required

Although the products Hybrid Stepping Motor & DC Brushless Motor contain some substances listed in Annex XVII of REACH Regulation, but their use is not within the scope of restriction, so they can get exemption from restriction, and there is no obligation of restrictions for the manufacturer.

6. Proposal for REACH Compliance

- The manufacturer should inform the downstream users as soon as possible if any information of the products mentioned above related to substance of very high concerned or restriction are changed.
- The manufacturer should pay constant attention to the SVHC list and fulfill related obligations if necessary. This list is updated regularly and it is important to monitor any changes to it.
- The manufacturer should ensure the exported products are consistent with the sample provided to REACH24H CONSULTING GROUP in material, vendors and production process.
- In order to dissuade its downstream suppliers from providing false information or incorrect information (due to lack of knowledge) about the presence or absence of SVHC, it is recommended that CHANGZHOU FULLING MOTOR CO., LTD. should henceforth take a formal declaration on the company letterhead of their various suppliers, especially new suppliers, that the parts/ raw materials supplied to CHANGZHOU FULLING MOTOR CO., LTD. are free of the regulated substances.

7. Validity

This assessment report is according to the first 174 SVHC's included in the REACH candidate list and current 68 entries in the REACH Restriction List.

However, since the company has subscribed to the updates for one year, any updates to the SVHC Candidate List/ Restriction List by ECHA till Jul.23 2018, this report shall be updated.

STATEMENT

First: Instruction for the assessment conclusion

The above assessment conclusions that we REACH24H CONSULTING GROUP have made is based on the understanding and analysis of the consignor's products and REACH Regulation and only applies to the situation described in the report. This conclusion does not apply to any enterprise or product that fails to meet the description.

As parts of REACH Regulation (for example SVHC) are still under modification, the above conclusion only applies to REACH Regulation as it currently stands.

This report is only used to assist the consignor to know his own responsibility and obligation under REACH Regulation, and provide the actors in his supply chain with evidence that his products are in compliance with REACH Regulation.

The consignor should study this report carefully. If there is any doubt or suggestion, please contact us and we will do our best to clarify and include any necessary amendments.

Second: Disclaimer Statement

We undertake no responsibility and no obligation to verify the authenticity of information supplied by the consignor.

The manufacturer should ensure the exported products are consistent with the sample and the information provided to our company in material, vendors and production process. We can't be held responsible or bear any consequence which may result from differences between the sample products provided to us and the exported products.

We have completed this report with all professional competence, responsibility and reasonable due diligence, however due to the limited approach to the consignor, the products and the market we can't guarantee that the content of the report is fully accurate.

Consignor should make a cautious decision to adopt the assessment conclusion of this report. We assume no liability for any loss incurred as a result of the use of the conclusion.

Third: Privacy statement and others

This report has been completed by REACH24H independently. We guarantee that we shall not disclose information in the above report to any third party (except with the express written permission of consignor). We shall assume no responsibility for any loss caused by disclosure of the report.

We suggest that before offering the report the consignor should sign a security agreement with the third party in order to keep the information of consignor and products in the report from disclosure.



ANNEX 1: The FMD Analysis and Process Flow Description

1. FMD (Full materials disclosure)

Hybrid Stepping Motor

1) Physical appearance and colour



Pic 1. Appearance and colour of Hybrid Stepping Motor

2) Manufacture process



Pic 2. Manufacture process of Hybrid Stepping Motor

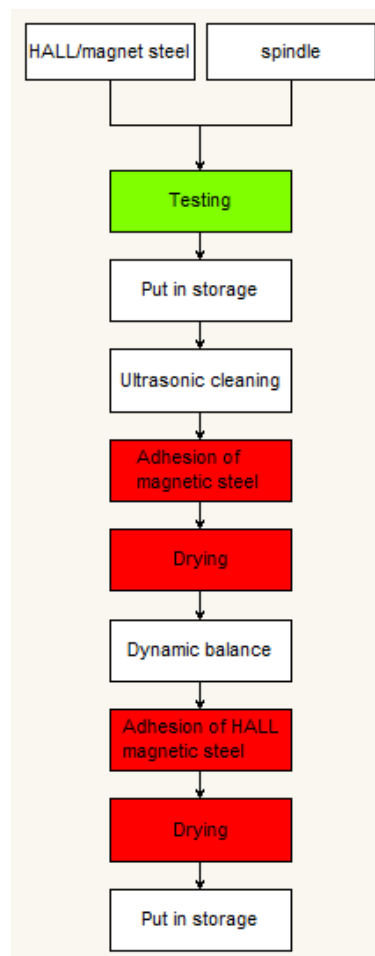
DC Brushless Motor

1) Physical appearance and colour



Pic 3. Appearance and colour of DC Brushless Motor

2) Manufacture process



Pic 4. Manufacture process of DC Brushless Motor

Analysis of substances in articles

According to the information provided by manufacturer and the manufacture process above, we could get a conclusion that the red parts might bring concerned substances into products, and the green portion of flow process would control relevant risk and reduce possible risk, and the procedure of inspection would make further improvement on the quality of the products. While the procedure of rust prevention still could bring possible concerned substances into the final products, all the substances in the products were disclosed, as shown below.

No.	Name	Materials	Coating materials	Details of materials	Remark
1	End cap	ADC12, Aluminium bar 6063 6061	spray, varnish, electrophoresis, anodization	ADC12: Al; Si 9.6~12; Fe <0.9; Cu 1.5~3.5; Mg <0.3; Mn <0.5; Zn <1.0; Ni <0.5; Sn <=0.3; Pb<=0.2	Procedure of anodization has been confirmed by manufacture, no hazardous chemicals would be involved.
				Aluminium bar 6063 6061: Al; Si: 0.20-0.60; Cu: 0.10; Mg: 0.45-0.9 Zn: 0.10; Mn: 0.10; Ti: 0.10; Cr: 0.10; Fe: 0.35	
2	Chassis	stainless steel, iron, aluminum	galvanization, electrophoresis, anodization	PE, Zn, Al	Procedure of anodization has been confirmed by manufacture, no hazardous chemicals would be involved.
3	Stator core, rotor core	silicon steel sheet	Insulation	PP, PTFE, PEEK, PSU, PFCC, PLA	
4	Film	silicon steel sheet	insulation	PP, PTFE, PEEK, PSU, PFCC, PLA	Procedure of anodization has been confirmed by manufacture, no hazardous chemicals would be involved.
5	Spindle	45#steel, 40Cr\304	ni-p alloys,nickel-phosphorus	C:0.37~0.44; Si:0.17~0.37; Cr:0.80~1.10; Ni:<=0.30; P:<=0.035;	

		stainless steel	alloy, ni-p alloy plating	S:<=0.035; Cu:<=0.030	
6	Bearing	roller bearing	/	Compared with IMDS system	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
7	Elastic cushion	45#steel	blackening	Cr<= 0.25	
8	Magnet steel	Nd, Fe, Be	/	Nd, Fe, Be, FemOn	No boron oxide was found in the products, which has been confirmed by manufacture
9	Flux-insulation	Al	/	Al	Green
10	Enamel wire	Cu	/	Cu	Green
11	Lead assembly	Cu	tin plating	Cu, Sn	No TBTO was found in the products, which has been confirmed by manufacture
12	Retainer	Fe	blackening	Fe	Green
13	HALL components	/	/	Ge, Si, InSb, GaAs, InAs, InAsP	Green

14	Stainless steel	stainless steel 202 303 304	/	Cr 17-19%	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
15	Gearbox	Steel, plastic (POM, nylon)	Electroplate	/	The concentration of residual formaldehyde is less than the limitation
16	Belt pulley	Al, Fe, plastic (POM, nylon)	blackening, anodization	/	Procedure of anodization has been confirmed by manufacture, no hazardous chemicals would be involved.
17	Axle sleeve	Al, nylon, Cu	anodization	Al, polyamide, Cu	Procedure of anodization has been confirmed by manufacture, no hazardous chemicals would be involved.
18	Rotor sheath	stainless steel	/	Cr 18-29%	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
19	shaft key	Fe	/	Fe	Green
20	circuit board	epoxy resin, Cu	/	Cu, epoxy resin	Green

21	screw	Fe, stainless steel	/	Fe, Cr 18-28%	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
22	nut	Fe, stainless steel	/	Fe, Cr 18-29%	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
23	Spring Washer	Fe, stainless steel	/	Fe, Cr 18-30%	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
25	Spring pin	Fe	/	Fe	Green
27	Skeleton	PA66	/	polyamide	Green
29	Shielded cable	Cu, Al, Pt	/	Cu, Al, Pt	Green
31	Insulationch	PET, DMD,	/	PET, DMD, FDMD	Green

	insertion	FDMD			
33	Waterproof Connectors	Plastic, stainless steel, stell	electroplate	PVC, Fe, Cr	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components.
34	framework oil seal	Plastic, stainless steel, stell	electroplate	PVC, Fe, Cr	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components; No phthalates were added intentionally, which was confirmed by manufacture.
35	Wire- protecting bushing	Plastic	/	PA66	Green
36	Sealed	rubber	/	/	No hazardous chemicals had been involved, especially substances listed in SVHC.
37	nameplates	Cu, Al, Fe, stainless steel	/	Cu, Al, Fe, stainless steel	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components

38	ground clip	Fe	/	Fe	Green
39	temperature sensor	stainless steel, Cu, Al	/	Cr, Cu, Al	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components
40	fuse	lead-antimony alloy	/	Sn, Cu, S, Se, As	No hazardous chemicals listed in SVHC had been found which has been confirmed by manufacture
41	brake	Fe	electroplate	Fe	No hazardous chemicals had been involved, especially chromium
42	shock absorbing ring	Iron, plastic	/	Fe,	No phthalates were added intentionally, which was confirmed by manufacture.
43	jumper wire	stainless steel, Cu, Sn	/	Cu, Cr, Sn	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components
44	ribbon	PA66	/	polyamide	Green
45	solder wick	Sn	/	Sn	Green

46	styrofoam	polyethylene	/	polyethylene	Green
47	adhesive tape	/	/	Polypropylene, 2-Propenoic acid, polymer with butyl 2-propenoate and ethenylbenzene	Green
48	shrinkable	polyolefin	/	EVA	Green
49	bush	/	/	C, Si, P, S, Cr, Ni, Mo, V	Green
50	FR-PPR	PET, phenolics, epoxy resin	/	polyester, phenolics, epoxy resin	Green
51	aluminium bar	Al	/	Al	Green
52	copper rod	Cu	/	Cu	Green
53	code disc	plastic, stainless steel	/	PET, Cr, Cr, Cu, Al	No hazardous chemicals had been involved, especially no Cr (VI) was found in the components; No phthalates were added intentionally, which was confirmed by manufacture.

54	encoder	Plastic	/	PE+ABS, Si	No phthalates were added intentionally, which was confirmed by manufacturer.
56	Electronic components	/	/	/	Relevant information provided by manufacture was not enough to identify, while the manufacturer confirms the components have no hazardous chemicals listed in SVHC.
57	terminal	Cu, Ag, Zn, Al, Fe	/	Cu, Ag, Zn, Al, Fe	Green
58	terminal box	steel plate	/	/	Green
59	connector	copper alloy, PA66, PBT, LCP	/	Cu, PA66, PBT, LCP	/
60	binding thread	/	/	Zn, Fe	/