



NORLAND PRODUCTS INCORPORATED

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July 27, 2018

BANNED / RESTRICTED MATERIAL AND CHEMICAL SUBSTANCES

Norland Products Inc is in full compliance with REACH, POPs, GADSL, IEC62474 and TC NES sub-group on identification of PBT and vPvB substances.

The following substances are not components of any product manufactured by Norland Product's Inc.

China RoHS and RoHS- European Union Directive 1907/2006, 2011/65/EU, 2015/863/EU and ED/169/12.

PFOS and fluorine related chemicals

Lead and its compounds
Mercury and its compounds
Cadmium and its compounds
Chromium and its compounds
Hexavalent Chromium
PBBs (Polybromobiphenyls)
PBDEs (Polybromodibiphenyl ethers)
PentaDBE (Pentabromodiphenyl ether)
OctaBDE (Octabromodiphenyl ether)
Deca BDE
Antimony and its compounds Isocyanates
Arsenic and its compounds Nickel and its compounds
Asbestos and its compounds Organic tin compounds
Azo compounds PCBs (Polychlorobiphenyls)
Benzene PCTS Polychlorinated terphenyl)
Beryllium and its compounds Phthalates (phthalate esters)
Bismuth and its compounds Polychloronaphthalenes
Brominated Flame Retardants Polyvinylchloride and its mixture
Chlorofluorocarbon radioactive substances
Chloroparaffins Selenium and its compounds
Cobalt and its compounds Tellurium and its compounds
Cyanogen and its compounds Thallium and its compounds
Dimethylfumarate (DMF)
Formaldehyde Tributyl tin and its compounds
Glycol ethers Triphenyl tin and its compounds
Halogenated Flame Retardant Bisphenol A
Red Phosphorus or its compounds
Any Halogens

In addition the 191 chemicals (listed below) of high concern listed by the European Chemicals Agency (ECHA) are not used to manufacture any Norland Adhesive.

#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
1	Anthracene	120-12-7	1000	2008.10.28

2	4,4'- Diaminodiphenylmethane	101-77-9	1000	2008.10.28
3	Dibutyl phthalate	84-74-2	1000	2008.10.28
4	Cobalt dichloride	7646-79-9	1000	2008.10.28
5	Diarsenic pentaoxide	1303-28-2	1000	2008.10.28
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
6	Diarsenic trioxide	1327-53-3	1000	2008.10.28
7	Sodium dichromate, dihydrate	10588-01-9	1000	2008.10.28
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	1000	2008.10.28
9	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	1000	2008.10.28
10	Hexabromocyclododecane (HBCDD)	3194-55-6	1000	2008.10.28
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	1000	2008.10.28
12	Bis(tributyltin) oxide,hexabutyldistannoxane	56-35-9	1000	2008.10.28
13	Lead hydrogen arsenate	7784-40-9	1000	2008.10.28
14	Triethyl arsenate	15606-95-8	1000	2008.10.28
15	Benzyl butyl phthalate	85-68-7	1000	2008.10.28
16	2,4-Dinitrotoluene	121-14-2	1000	2010.1.13
17	Anthracene oil	90640-80-5	1000	2010.1.13
18	Anthracene oil, anthracene paste	90640-81-6	1000	2010.1.13
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	1000	2010.1.13
20	Anthracene oil, anthracene paste,distn. lights	91995-17-4	1000	2010.1.13
21	Anthracene oil, anthracene-low	90640-82-7	1000	2010.1.13
22	Diisobutyl phthalate	84-69-5	1000	2010.1.13
23	Lead chromate	7758-97-6	1000	2010.1.13
24	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	1000	2010.1.13
25	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	1000	2010.1.13
26	Pitch, coal tar, high temp.	65996-93-2	1000	2010.1.13
27	Tris(2-chloroethyl)phosphate	115-96-8	1000	2010.1.13
28	Acrylamide	79-06-1	1000	2010.3.30
29	Trichloroethylene	79-01-6	1000	2010.6.18
30	Boric acid	10043-35-3	1000	2010.6.18
31	Disodium tetraborate, anhydrous	1330-43-4	1000	2010.6.18
32	Tetraboron disodium heptaoxide, hydrate	12267-73-1	1000	2010.6.18
33	Sodium chromate	7775-11-3	1000	2010.6.18
34	Potassium chromate	7789-00-6	1000	2010.6.18
35	Ammonium dichromate	7789-09-5	1000	2010.6.18
36	Potassium dichromate	7778-50-9	1000	2010.6.18
37	2-Ethoxyethanol	110-80-5	1000	2010.12.15
38	2-Methoxyethanol	109-86-4	1000	2010.12.15
39	Chromic acid	7738-94-5	1000	2010.12.15
40	Chromium trioxide	1333-82-0	1000	2010.12.15
41	Cobalt(II) carbonate	513-79-1	1000	2010.12.15
42	Cobalt(II) diacetate	71-48-7	1000	2010.12.15
43	Cobalt(II) dinitrate	10141-05-6	1000	2010.12.15
44	Cobalt(II) sulphate	10124-43-3	1000	2010.12.15
45	1,2,3-Trichloropropane	96-18-4	1000	2011.6.20

46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	1000	2011.6.20
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	1000	2011.6.20
48	1-Methyl-2-pyrrolidone	872-50-4	1000	2011.6.20
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
49	2-Ethoxyethyl acetate	111-15-9	1000	2011.6.20
50	Hydrazine	302-01-2 / 7803-57-8	1000	2011.6.20
51	Strontium chromate	7789-06-2	1000	2011.6.20
52	Dichromium tris(chromate)	24613-89-6	1000	2011.12.19
53	Potassium hydroxyoctaoxidizincatedi-chromate	11103-86-9	1000	2011.12.19
54	Pentazinc chromate octahydroxide	49663-84-5	1000	2011.12.19
55	Aluminosilicate Refractory Ceramic Fibres (RCF)	-	1000	2011.12.19
56	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-	1000	2011.12.19
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	1000	2011.12.19
58	Bis(2-methoxyethyl) phthalate	117-82-8	1000	2011.12.19
59	2-Methoxyaniline; o-Anisidine	90-04-0	1000	2011.12.19
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	1000	2011.12.19
61	1,2-Dichloroethane	107-06-2	1000	2011.12.19
62	Bis(2-methoxyethyl) ether	111-96-6	1000	2011.12.19
63	Arsenic acid	7778-39-4	1000	2011.12.19
64	Calcium arsenate	7778-44-1	1000	2011.12.19
65	Trilead diarsenate	3687-31-8	1000	2011.12.19
66	N,N-dimethylacetamide (DMAC)	127-19-5	1000	2011.12.19
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	1000	2011.12.19
68	Phenolphthalein	77-09-8	1000	2011.12.19
69	Lead azide Lead diazide	13424-46-9	1000	2011.12.19
70	Lead styphnate	15245-44-0	1000	2011.12.19
71	Lead dipicrate	6477-64-1	1000	2011.12.19
72	α,α .Bis[4.(dimethylamino)phenyl].4 (phenylamino)naphthalene.1.methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202.027.5) or Michler's base (EC No. 202.959.2)]	6786-83-0	1000	2012.6.18
73	N,N,N',N'.tetramethyl.4,4'.methylenedianiline (Michler's base)	101-61-1	1000	2012.6.18
74	1,3,5.tris[(2S and 2R).2,3.epoxypropyl].1,3,5.triazine.2,4,6.(1H,3H,5H).trione (β .TGIC)	59653-74-6	1000	2012.6.18
75	Diboron trioxide	1303-86-2	1000	2012.6.18
76	1,2.bis(2.methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	1000	2012.6.18
77	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)]	561-41-1	1000	2012.6.18
78	Lead(II) bis(methanesulfonate)	17570-76-2	1000	2012.6.18
79	Formamide	75-12-7	1000	2012.6.18
80	[4.[4,4'.bis(dimethylamino)benzhydrylidene]cyclohexa.2,5.dien.1.ylidene]dimethyl ammonium chloride (C.I. Basic Violet 3) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202.027.5) or Michler's base	548-62-9	1000	2012.6.18

	(EC No. 202.959.2)]			
81	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	1000	2012.6.18
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
82	[4. [[4.anilino.1.naphthyl][4.(dimethylamino)phenyl]methylene]cyclohexa.2,5.dien.1.ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202.027.5) or Michler's base (EC No. 202.959.2)]	2580-56-5	1000	2012.6.18
83	1,3,5-Tris(oxiran.2.ylmethyl).1,3,5.triazinane.2,4,6.trione (TGIC)	2451-62-9	1000	2012.6.18
84	4,4'.bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	1000	2012.6.18
85	Pyrochlore, antimony lead yellow	8012-00-8	1000	2012.12.19
86	6-methoxy-m-toluidine (p-cresidine)	120-71-8	1000	2012.12.19
87	Henicosafuoroundecanoic acid	2058-94-8	1000	2012.12.19
88	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	1000	2012.12.19
89	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3]	85-42-7, 13149-00-3, 14166-21-3	1000	2012.12.19
90	Dibutyltin dichloride (DBTC)	683-18-1	1000	2012.12.19
91	Lead bis(tetrafluoroborate)	13814-96-5	1000	2012.12.19
92	Lead dinitrate	10099-74-8	1000	2012.12.19
93	Silicic acid, lead salt	11120-22-2	1000	2012.12.19
94	4-Aminoazobenzene	60-09-3	1000	2012.12.19
95	Lead titanium zirconium oxide	12626-81-2	1000	2012.12.19
96	Lead monoxide (lead oxide)	1317-36-8	1000	2012.12.19
97	o-Toluidine	95-53-4	1000	2012.12.19
98	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	1000	2012.12.19
99	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped	68784-75-8	1000	2012.12.19
100	Trilead bis(carbonate)dihydroxide	1319-46-6	1000	2012.12.19
101	Furan	110-00-9	1000	2012.12.19
102	N,N-dimethylformamide	68-12-2	1000	2012.12.19
103	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated		1000	2012.12.19
104	4-Nonylphenol, branched and linear		1000	2012.12.19
105	4,4'-methylenedi-o-toluidine	838-88-0	1000	2012.12.19

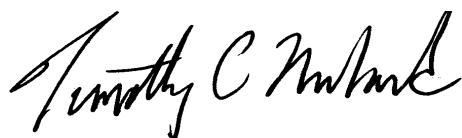
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106	Diethyl sulphate	64-67-5	1000	2012.12.19
107	Dimethyl sulphate	77-78-1	1000	2012.12.19
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
108	Lead oxide sulfate	12036-76-9	1000	2012.12.19
109	Lead titanium trioxide	12060-00-3	1000	2012.12.19
110	Acetic acid, lead salt, basic	51404-69-4	1000	2012.12.19
111	[Phthalato(2-)]dioxotrilead	69011-06-9	1000	2012.12.19
112	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	1000	2012.12.19
113	N-methylacetamide	79-16-3	1000	2012.12.19
114	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	1000	2012.12.19
115	1,2-Diethoxyethane	629-14-1	1000	2012.12.19
116	Tetralead trioxide sulphate	12202-17-4	1000	2012.12.19
117	N-pentyl-isopentylphthalate	776297-69-9	1000	2012.12.19
118	Dioxobis(stearato)trilead	12578-12-0	1000	2012.12.19
119	Tetraethyllead	78-00-2	1000	2012.12.19
120	Pentalead tetraoxide sulphate	12065-90-6	1000	2012.12.19
121	Pentacosafuorotridecanoic acid	72629-94-8	1000	2012.12.19
122	Tricosafuorododecanoic acid	307-55-1	1000	2012.12.19
123	Heptacosafuorotetradecanoic acid	376-06-7	1000	2012.12.19
124	1-bromopropane (n-propyl bromide)	106-94-5	1000	2012.12.19
125	Methoxyacetic acid	625-45-6	1000	2012.12.19
126	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	1000	2012.12.19
127	Methyloxirane (Propylene oxide)	75-56-9	1000	2012.12.19
128	Trilead dioxide phosphonate	12141-20-7	1000	2012.12.19
129	o-aminoazotoluene	97-56-3	1000	2012.12.19
130	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	1000	2012.12.19
131	4,4'-oxydianiline and its salts	101-80-4	1000	2012.12.19
132	Orange lead (lead tetroxide)	1314-41-6	1000	2012.12.19
133	Biphenyl-4-ylamine	92-67-1	1000	2012.12.19
134	Diisopentylphthalate	605-50-5	1000	2012.12.19

135	Fatty acids, C16-18, lead salts	91031-62-8	1000	2012.12.19
136	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	1000	2012.12.19
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
137	Sulfurous acid, lead salt, dibasic	62229-08-7	1000	2012.12.19
138	Lead cyanamidate	20837-86-9	1000	2012.12.19
139	Cadmium	7440-43-9	1000	2013.6.20
140	Cadmium oxide	1306-19-0	1000	2013.6.20
141	Dipentyl phthalate (DPP)	131-18-0	1000	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, which include any of the individual isomers and/or combinations thereof]		1000	2013.6.20
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	1000	2013.6.20
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	1000	2013.6.20
145	Cadmium sulphide	1306-23-6	1000	2013.12.16
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	1000	2013.12.16
147	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)	1937-37-7	1000	2013.12.16
148	Dihexyl phthalate	84-75-3	1000	2013.12.16
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	1000	2013.12.16
150	Lead di(acetate)	301-04-2	1000	2013.12.16
151	Trixylyl phosphate	25155-23-1	1000	2013.12.16
152	4,4'- Diaminodiphenylmethane (MDA)	01-77-9	1000	2014.6.16
153	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	1000	2014.6.16
154	Anthracene	120-12-7	1000	2014.6.16
155	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4, 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	1000	2014.6.16
156	Cadmium fluoride	7790-79-6	1000	2014.12.17
157	Cadmium sulphate	10124-36-4; 31119-53-6	1000	2014.12.17
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	1000	2014.12.17

159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	1000	2014.12.17
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	1000	2014.12.17
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
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 (reaction mass of DOTE and MOTE)	---	1000	2014.12.17
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ? 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1	1000	2015.06.15
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	--	1000	2015.06.15
164	Nitrobenzene	98-95-3	1000	2015.12.17
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	1000	2015.12.17
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	1000	2015.12.17
167	1,3-propanesultone	1120-71-4	1000	2015.12.17
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluorononanoic acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	1000	2015.12.17
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	1000	2016.06.20
170	4,4'-isopropylidenediphenol (busphenol A;BPA)	80-05-07	1000	2017-01-12
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	1000	2017-01-12
172	p-(1,1-dimethylpropyl)phenol	80-46-6	1000	2017-01-12
173	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]		1000	2017-01-12
174	Perfluorohexane-1-sulphonic acid and its salts	355-46-4	1000	2017-07-07
175	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	1000	2018-01-15
176	Chrysene	218-01-9	1000	2018-01-15

177	Benz[a]anthracene	56-55-3	1000	2018-01-15
178	Cadmium nitrate	10325-94-7	1000	2018-01-15
#	Substance Name	CAS #	Concentration Threshold (PPM)	Date of inclusion
179	Cadmium hydroxide	21041-95-2	1000	2018-01-15
180	Cadmium carbonate	513-78-0	1000	2018-01-15
181	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1 ^{6,9} .0 ^{2,13} .0 ^{5,10}]octadeca-7,15-diene ("Dechlorane Plus" TM) [covering any of its individual anti- and syn-isomers or any combination thereof]			2018-01-15
182	<u>Terphenyl, hydrogenated</u>	61788-32-7	1000	2018-06-27
183	<u>Octamethylcyclotetrasiloxane</u>	556-67-2	1000	2018-06-27
184	Lead	7439-92-1	1000	2018-06-27
185	Ethylenediamine	107-15-3	1000	2018-06-27
186	Dodecamethylcyclohexasiloxane	540-97-6	1000	2018-06-27
187	Disodium octaborate	12008-41-2	1000	2018-06-27
188	Dicyclohexyl phthalate	84-61-7	1000	2018-06-27
189	Decamethylcyclopentasiloxane	541-02-6	1000	2018-06-27
190	Benzo[ghi]perylene	191-24-2	1000	2018-06-27
191	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	552-30-7	1000	2018-06-27

Additions may be made to this list whenever deemed necessary or desirable following investigation on a case by case basis.



Timothy C. Norland - President