



BUREAU VERITAS

# TEST REPORT

(시험 성적서)

Report No. : (8226)185-0001-021-E2  
시험성적서 번호

Date Issued : 2026. 02. 23  
발행일자

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Company Name : KG DONGBU STEEL CO., LTD.  
신청기관 : 케이지스틸 주식회사  
Address : 1228, Bukbusaneop-ro, Songak-eup, Dangjin-si, Chungcheongnam-do  
주소 : 충청남도 당진시 송악읍 북부산업로 1228

## Sample Description

Name / Type of Product : Tin Free Steel  
제품명/형식 :  
Item No. / Part No. : -  
품번 :  
Material/Color : -  
재질 :  
Manufacturer/Vendor : KG DONGBU STEEL CO., LTD.  
제품 생산자/공급자 :

Date Received : 2026. 02. 09  
시료접수일자 :  
Test Period : 2026. 02. 09 ~ 2026. 02. 23  
시험일자 :

Test Type : Candidate List of Substances of Very High Concern for authorization published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 concerning REACH  
Test Site : Fixed Test Lab (RM908~915 126, Beolmal-ro, Dongan-gu, Anyang-si)  
Test Method(s) : For the detail, please the following page(s).  
시험방법 :  
Test Results(s) : For the detail, please the following page(s).  
시험결과 :

Authorized by

Bureau Veritas Korea Co., Ltd.  
Consumer Product Services

JIN KIM  
Lab Manager / Bureau Veritas Korea CPS



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Name / Type of Product (제품명/형식) : Tin Free Steel

## TEST RESULT

**Candidate List of Substances of Very High Concern for authorization published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 concerning REACH.**

No.	Substance name	CAS No.	EC No.	Basis for identification as a SVHC	Detection Limit, %	Result, %
1	Triethyl arsenate*	15606-95-8	427-700-2	Carcinogenic	0.02	ND
2	Anthracene	120-12-7	204-371-1	PBT	0.02	ND
3	4,4'-Diaminodiphenyl methane (MDA)	101-77-9	202-974-4	Carcinogenic	0.02	ND
4	Dibutyl phthalate (DBP)	84-74-2	201-557-4	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
5	Cobalt dichloride*	7646-79-9	231-589-4	Carcinogenic	0.02	ND
6	Diarsenic pentaoxide*	1303-28-2	215-116-9	Carcinogenic	0.02	ND
7	Diarsenic trioxide*	1327-53-3	215-481-4	Carcinogenic	0.02	ND
8	Sodium dichromate*	7789-12-0 <sup>(1)</sup> , 10588-01-9 <sup>(2)</sup>	234-190-3	Carcinogenic; Mutagenic; Toxic for reproduction	0.02	ND
9	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	vPvB	0.02	ND
10	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	204-211-0	Toxic for reproduction; Equivalent level of concern having probable serious effects to environment and human health	0.02	ND
11	Hexabromo cyclododecane (HBCDD) and all major diastereoisomers identified: α - HBCDD β - HBCDD γ - HBCDD	3194-55-6 <sup>(3)</sup> , 25637-99-4 <sup>(4)</sup> 134237-50-6 134237-51-7 134237-52-8	247-148-4, 221-695-9	PBT	0.02	ND
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (SCCP)	85535-84-8	287-476-5	PBT, vPvB	0.02	ND



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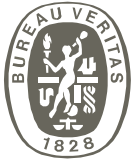
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13	Bis(tributyltin)oxide (TBTO)**	56-35-9	200-268-0	PBT	0.02	ND
14	Lead hydrogen arsenate*	7784-40-9	232-064-2	Carcinogenic; Toxic for reproduction	0.02	ND
15	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
16	2,4-Dinitrotoluene	121-14-2	204-450-0	Carcinogenic	0.02	ND
17	Anthracene oil	90640-80-5	292-602-7	Carcinogenic, PBT, vPvB	0.02	ND
18	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	Carcinogenic; Mutagenic, PBT, vPvB	0.02	ND
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	Carcinogenic; Mutagenic, PBT, vPvB	0.02	ND
20	Anthracene oil, anthracene-low	90640-82-7	292-604-8	Carcinogenic; Mutagenic, PBT, vPvB	0.02	ND
21	Anthracene oil, anthracene paste	90640-81-6	292-603-2	Carcinogenic; Mutagenic, PBT, vPvB	0.02	ND
22	Diisobutyl phthalate	84-69-5	201-553-2	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
23	Aluminosilicate, Refractory Ceramic Fibres* <sup>a</sup>	Index no. 650-017-00-8		Carcinogenic	0.02	ND
24	Zirconia Aluminosilicate, Refractory Ceramic Fibres* <sup>b</sup>	Index no. 650-017-00-8		Carcinogenic	0.02	ND
25	Lead chromate*	7758-97-6	231-846-0	Carcinogenic; Toxic for reproduction	0.02	ND
26	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	Carcinogenic; Toxic for reproduction	0.02	ND
27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	Carcinogenic; Toxic for reproduction	0.02	ND
28	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	Toxic for reproduction	0.02	ND
29	Coal tar pitch, high temperature	65996-93-2	266-028-2	Carcinogenic, PBT, vPvB	0.02	ND
30	Acrylamide	79-06-1	201-173-7	Carcinogenic;	0.02	ND



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				Mutagenic		
31	Trichloroethylene	79-01-6	201-167-4	Carcinogenic	0.02	ND
32	Boric acid*	10043-35-3, 11113-50-1	233-139-2 / 234-343-4	Toxic for reproduction	0.02	ND
33	Disodium tetraborate, anhydrous*	1330-43-4 <sup>(5)</sup> , 12179-04-3 <sup>(6)</sup> , 1303-96-4 <sup>(7)</sup>	215-540-4	Toxic for reproduction	0.02	ND
34	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	Toxic for reproduction	0.02	ND
35	Sodium chromate*	7775-11-3	231-889-5	Carcinogenic; Mutagenic; Toxic for reproduction	0.02	ND
36	Potassium chromate*	7789-00-6	232-140-5	Carcinogenic; Mutagenic	0.02	ND
37	Ammonium dichromate*	7789-09-5	232-143-1	Carcinogenic; Mutagenic; Toxic for reproduction	0.02	ND
38	Potassium dichromate*	7778-50-9	231-906-6	Carcinogenic; Mutagenic; Toxic for reproduction	0.02	ND
39	Cobalt(II) sulphate*	10124-43-3	233-334-2	Carcinogenic; Toxic for reproduction	0.02	ND
40	Cobalt(II) dinitrate*	10141-05-6	233-402-1	Carcinogenic; Toxic for reproduction	0.02	ND
41	Cobalt(II) carbonate*	513-79-1	208-169-4	Carcinogenic; Toxic for reproduction	0.02	ND
42	Cobalt(II) diacetate*	71-48-7	200-755-8	Carcinogenic; Toxic for reproduction	0.02	ND
43	2-Methoxyethanol	109-86-4	203-713-7	Toxic for reproduction	0.02	ND
44	2-Ethoxyethanol	110-80-5	203-804-1	Toxic for reproduction	0.02	ND
45	Chromium trioxide*	1333-82-0	215-607-8	Carcinogenic; Mutagenic	0.02	ND
46	Acid generated from chromium trioxide and their oligomers: Chromic acid* Dichromic acid* Oligomers of chromic acid and dichromic acid*	7738-94-5 13530-68-2	231-801-5 236-881-5	Carcinogenic	0.02	ND
47	2-Ethoxyethyl acetate	111-15-9	203-839-2	Toxic for reproduction	0.02	ND
48	Strontium Chromate*	7789-06-2	232-142-6	Carcinogenic	0.02	ND



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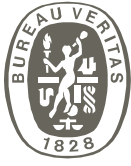
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49	1,2-benzenedicarboxylic acid, di-C7-11 branched alkyl ester and linear alkyl ester	68515-42-4	271-084-6	Toxic for reproduction	0.02	ND
50	Hydrazine	302-01-2 7803-57-8	206-114-9	Carcinogenic	0.02	ND
51	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	Toxic for reproduction	0.02	ND
52	1,2,3-trichloropropane	96-18-4	202-486-1	Toxic for reproduction	0.02	ND
53	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl ester, C7-rich (DIHP)	71888-89-6	276-158-1	Toxic for reproduction	0.02	ND
54	Dichromium tris(chromate)*	24613-89-6	246-356-2	Carcinogenic	0.02	ND
55	Potassium hydroxyoctaoxidizincated i-chromate*	11103-86-9	234-329-8	Carcinogenic	0.02	ND
56	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	Carcinogenic	0.02	ND
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1	Carcinogenic	0.02	ND
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	Toxic for reproduction	0.02	ND
59	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	Carcinogenic	0.02	ND
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	Equivalent level of concern	0.02	ND
61	1,2-Dichloroethane	107-06-2	203-458-1	Carcinogenic	0.02	ND
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	Toxic for reproduction	0.02	ND
63	Arsenic acid*	7778-39-4	231-901-9	Carcinogenic	0.02	ND
64	Calcium arsenate*	7778-44-1	231-904-5	Carcinogenic	0.02	ND
65	Trilead diarsenate*	3687-31-8	222-979-5	Carcinogenic; Toxic for reproduction	0.02	ND
66	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4	Toxic for reproduction	0.02	ND
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	Carcinogenic	0.02	ND
68	Phenolphthalein	77-09-8	201-004-7	Carcinogenic	0.02	ND
69	Lead azide, Lead diazide*	13424-46-9	236-542-1	Toxic for reproduction	0.02	ND
70	Lead styphnate*	15245-44-0	239-290-0	Toxic for reproduction	0.02	ND



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Name / Type of Product (제품명/형식) : Tin Free Steel

71	Lead dipicrate*	6477-64-1	229-335-2	Toxic for reproduction	0.02	ND
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	Toxic for reproduction	0.02	ND
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	Toxic for reproduction	0.02	ND
74	Diboron trioxide*	1303-86-2	215-125-8	Toxic for reproduction	0.02	ND
75	Formamide	75-12-7	200-842-0	Toxic for reproduction	0.02	ND
76	Lead(II) bis(methanesulfonate)*	17570-76-2	401-750-5	Toxic for reproduction	0.02	ND
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione) §	2451-62-9	219-514-3	Mutagenic	0.02	ND
78	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione) §	59653-74-6	423-400-0	Mutagenic	0.02	ND
79	4,4'-bis(dimethylamino)benzo phenone (Michler's ketone)	90-94-8	202-027-5	Carcinogenic	0.02	ND
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	Carcinogenic	0.02	ND
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	Carcinogenic	0.02	ND
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino) phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	219-943-6	Carcinogenic	0.02	ND
83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	Carcinogenic	0.02	ND



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84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	Carcinogenic	0.02	ND
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	Persistent, bioaccumulative and toxic; very persistent and very bioaccumulative	0.02	ND
86	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	Toxic for reproduction	0.02	ND
87	Methoxy acetic acid	625-45-6	210-894-6	Toxic for reproduction ; equivalent level of concern	0.02	ND
88	Dibutyltin dichloride (DBT) <sup>Ⓛ</sup>	683-18-1	211-670-0	Toxic for reproduction	0.02	ND
89	1,2-Diethoxyethane	629-14-1	211-076-1	Toxic for reproduction	0.02	ND
90	Hexahydro-2-benzofuran-1,3-dione (HHPA), cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	Equivalent level of concern	0.02	ND
91	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	Equivalent level of concern	0.02	ND
92	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	-	-	Equivalent level of concern	0.02	ND
93	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	Very persistent and very bioaccumulative	0.02	ND
94	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear <sup>+</sup>	84777-06-0	284-032-2	Toxic for reproduction	0.02	ND
95	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	Very persistent and very bioaccumulative	0.02	ND
96	N-pentyl-isopentylphtalate (iPnPP) <sup>+</sup>	776297-69-9	-	Toxic for reproduction	0.02	ND



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97	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2	Very persistent and very bioaccumulative	0.02	ND
98	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues	-	-	Equivalent level of concern	0.02	ND
99	Tricosafafluorododecanoic acid	307-55-1	206-203-2	Very persistent and very bioaccumulative	0.02	ND
100	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	Toxic for reproduction	0.02	ND
101	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	Toxic for reproduction	0.02	ND
102	Diethyl sulphate	64-67-5	200-589-6	Carcinogenic; Mutagenic	0.02	ND
103	Dinoseb	88-85-7	201-861-7	Toxic for reproduction	0.02	ND
104	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	Toxic for reproduction	0.02	ND
105	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	Toxic for reproduction	0.02	ND
106	Furan	110-00-9	203-727-3	Carcinogenic	0.02	ND
107	N-methylacetamide	79-16-3	201-182-6	Toxic for reproduction	0.02	ND
108	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	Carcinogenic	0.02	ND
109	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	Toxic for reproduction	0.02	ND
110	4,4'-oxydianiline and its salts	101-80-4	202-977-0	Carcinogenic; Mutagenic	0.02	ND
111	[Phthalato(2-)]dioxotrilead (Dibasic lead phthalate)*	69011-06-9	273-688-5	Toxic for reproduction	0.02	ND
112	Lead titanium trioxide*	12060-00-3	235-038-9	Toxic for reproduction	0.02	ND
113	Lead oxide sulphate*	12036-76-9	234-853-7	Toxic for reproduction	0.02	ND
114	Lead dinitrate*	10099-74-8	233-245-9	Toxic for reproduction	0.02	ND
115	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	200-453-6	Carcinogenic	0.02	ND
116	Lead cyanamidate*	20837-86-9	244-073-9	Toxic for reproduction	0.02	ND
117	Tetralead trioxide sulphate*	12202-17-4	235-380-9	Toxic for reproduction	0.02	ND
118	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	202-453-1	Carcinogenic	0.02	ND
119	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	Toxic for reproduction	0.02	ND
120	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	215-290-6	Toxic for reproduction	0.02	ND



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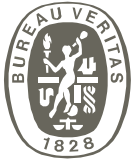
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121	Dimethyl sulphate	77-78-1	201-058-1	Carcinogenic	0.02	ND
122	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	Toxic for reproduction	0.02	ND
123	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	Toxic for reproduction	0.02	ND
124	Biphenyl-4-ylamine	92-67-1	202-177-1	Carcinogenic	0.02	ND
125	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	Toxic for reproduction	0.02	ND
126	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	Toxic for reproduction	0.02	ND
127	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	Carcinogenic; Mutagenic	0.02	ND
128	Silicic acid, lead salt*	11120-22-2	234-363-3	Toxic for reproduction	0.02	ND
129	Trilead dioxide phosphonate*	12141-20-7	235-252-2	Toxic for reproduction	0.02	ND
130	o-aminoazotoluene	97-56-3	202-591-2	Carcinogenic	0.02	ND
131	1-bromopropane	106-94-5	203-445-0	Toxic for reproduction	0.02	ND
132	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	Carcinogenic	0.02	ND
133	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	Carcinogenic	0.02	ND
134	Tetraethyllead*	78-00-2	201-075-4	Toxic for reproduction	0.02	ND
135	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	Toxic for reproduction	0.02	ND
136	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	Toxic for reproduction	0.02	ND
137	Diisopentylphthalate <sup>+</sup>	605-50-5	210-088-4	Toxic for reproduction	0.02	ND
138	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	Equivalent level of concern	0.02	ND
139	Cadmium*	7440-43-9	231-152-8	Carcinogenic; Equivalent level of concern	0.02	ND
140	Cadmium oxide*	1306-19-0	215-146-2	Carcinogenic; Equivalent level of concern	0.02	ND
141	Dipentyl phthalate (DPP) <sup>+</sup>	131-18-0	205-017-9	Toxic for reproduction	0.02	ND
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,	-	-	Equivalent level of concern	0.02	ND



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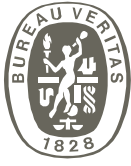
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	polymers and homologues, which include any of the individual isomers and/or combinations thereof]					
143	Ammonium pentadecafluorooctanoate (APFO) <sup>‡</sup>	3825-26-1	223-320-4	Toxic for reproduction; PBT	0.02	ND
144	Pentadecafluorooctanoic acid (PFOA) <sup>‡</sup>	335-67-1	206-397-9	Toxic for reproduction; PBT	0.02	ND
145	Cadmium sulphide*	1306-23-6	215-147-8	Carcinogenic; Equivalent level of concern	0.02	ND
146	Dihexyl phthalate	84-75-3	201-559-5	Toxic for reproduction	0.02	ND
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	Carcinogenic	0.02	ND
148	Disodium 4-amino-3-[[4'-[(2,4diaminophenyl)azo] [1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	Carcinogenic	0.02	ND
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	Toxic for reproduction	0.02	ND
150	Lead di(acetate)*	301-04-2	206-104-4	Toxic for reproduction	0.02	ND
151	Trixylyl phosphate	25155-23-1	246-677-8	Toxic for reproduction	0.02	ND
152	Cadmium chloride*	10108-64-2	233-296-7	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear <sup>++</sup>	68515-50-4	271-093-5	Toxic for reproduction	0.02	ND
154	Sodium peroxometaborate*	7632-04-4	231-556-4	Toxic for reproduction	0.02	ND



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155	Sodium perborate; perboric acid, sodium salt*	-	239-172-9; 234-390-0	Toxic for reproduction	0.02	ND
156	Cadmium fluoride *	7790-79-6	232-222-0	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
157	Cadmium sulphate *	10124-36-4; 31119-53-6	233-331-6	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6	PBT; vPvB	0.02	ND
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV- Plus,)	25973-55-1	247-384-8	PBT; vPvB	0.02	ND
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) <sup>db</sup>	15571-58-1	239-622-4	Toxic for Reproduction	0.02	ND
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) <sup>db</sup>	-	-	Toxic for Reproduction	0.02	ND



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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	271-094-0; 272-013-1	Toxic for reproduction	0.02	ND
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]	-	-	vPvB	0.02	ND
164	1,3-propanesultone	1120-71-4	214-317-9	Carcinogenic	0.02	ND
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	vPvB	0.02	ND
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	vPvB	0.02	ND
167	Nitrobenzene	98-95-3	202-716-0	Toxic for reproduction	0.02	ND
168	Perfluorononan-1-oic acid and its sodium and ammonium salts	375-95-1; 21049-39-8; 4149-60-4	206-801-3	Toxic for reproduction; PBT	0.02	ND
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	Carcinogenic; Mutagenic; Toxic for Reproduction; PBT; vPvB	0.02	ND
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	201-245-8	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
171	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	-	-	Equivalent level of concern having probable serious effects to the environment	0.02	ND



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	UVCB- and well-defined substances which include any of the individual isomers or a combination thereof](4-Hpbl)					
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3830-45-3, 335-76-2, 3108-42-7	-, 206-400-3, 221-470-5	Toxic for reproduction; PBT	0.02	ND
173	p-(1,1-dimethylpropyl)phenol (PTAP)	80-46-6	201-280-9	Equivalent level of concern having probable serious effects to the environment	0.02	ND
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-	vPvB	0.02	ND
175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo [12.2.1.16,9,02,13.05,10] octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	-	vPvB (Article 57e)	0.02	ND
176	Benz[a]anthracene	56-55-3	200-280-6	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)	0.02	ND
177	Cadmium nitrate*	10325-94-7	233-710-6	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)	0.02	ND
178	Cadmium carbonate*	513-78-0	208-168-9	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)	0.02	ND
179	Cadmium hydroxide*	21041-95-2	244-168-5	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) -	0.02	ND



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				human health)		
180	Chrysene	218-01-9	205-923-4	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)	0.02	ND
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with $\geq 0.1\%$ w/w 4-heptylphenol, branched and linear]	-	-	Endocrine disrupting properties (Article 57(f) – environment)	0.02	ND
182	Octamethylcyclotetrasiloxane (D4)	556-67-2	209-136-7	PBT; vPvB	0.02	ND
183	Decamethylcyclopentasiloxane (D5)	541-02-6	208-764-9	PBT; vPvB	0.02	ND
184	Dodecamethylcyclohexasiloxane (D6)	540-97-6	208-762-8	PBT; vPvB	0.02	ND
185	Lead*	7439-92-1	231-100-4	Toxic for reproduction	0.02	ND
186	Disodium octaborate*	12008-41-2	234-541-0	Toxic for reproduction	0.02	ND
187	Benzo[ghi]perylene	191-24-2	205-883-8	PBT; vPvB	0.02	ND
188	Terphenyl hydrogenated	61788-32-7	262-967-7	vPvB	0.02	ND
189	Ethylenediamine (EDA)	107-15-3	203-468-6	Equivalent level of concern having probable serious effects to human health	0.02	ND
190	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (TMA)	552-30-7	209-008-0	Equivalent level of concern having probable serious effects to human health	0.02	ND



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191	Dicyclohexyl phthalate (DCHP)	84-61-7	201-545-9	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health	0.02	ND
192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	401-720-1	Toxic for reproduction	0.02	ND
193	Benzo[k]fluoranthene	207-08-9	205-916-6	Carcinogenic; PBT; vPvB	0.02	ND
194	Fluoranthene	206-44-0	205-912-4	PBT; vPvB	0.02	ND
195	Phenanthrene	85-01-8	201-581-5	vPvB	0.02	ND
196	Pyrene	129-00-0	204-927-3	PBT; vPvB	0.02	ND
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo [2.2.1]heptan-2-one (3-benzylidene camphor; 3-BC)	15087-24-8	239-139-9	Equivalent level of concern having probable serious effects to the environment	0.02	ND
198	2-methoxyethyl acetate	110-49-6	203-772-9	Toxic for reproduction	0.02	ND
199	Tris(4-nonylphenyl, branched and linear) phosphite	-	-	Endocrine disrupting properties (Article 57(f)-environment)	0.02	ND
200	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	-	Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
201	4-tert-butylphenol (PTBP)	98-54-4	202-679-0	Equivalent level of concern having probable serious effects to the environment	0.02	ND
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	404-360-3	Toxic for reproduction	0.02	ND



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203	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	400-600-6	Toxic for reproduction	0.02	ND
204	Diisohexyl phthalate	71850-09-4	276-090-2	Toxic for reproduction	0.02	ND
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	-	Equivalent level of concern having probable serious effects on the environment and human health	0.02	ND
206	1-vinylimidazole	1072-63-5	214-012-0	Toxic for reproduction	0.02	ND
207	2-methylimidazole	693-98-1	211-765-7	Toxic for reproduction	0.02	ND
208	Butyl 4-hydroxybenzoate (Butylparaben)	94-26-8	202-318-7	Equivalent level of concern having probable serious effects on the human health	0.02	ND
209	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	245-152-0	Toxic for reproduction	0.02	ND
210	bis(2-(2-methoxyethoxy)ethyl) ether	143-24-8	205-594-7	Toxic for reproduction	0.02	ND
211	Diocetyl tin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	-	-	Toxic for reproduction	0.02	ND
212	1,4-dioxane	123-91-1	204-661-8	Carcinogenic; Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
213	2,2-bis(bromomethyl) propane 1,3-diol (BMP) 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA) 2,3-dibromo-1-propanol (2,3-DBPA)	3296-90-0, 36483-57-5, 1522-92-5, 96-13-9	221-967-7, 253-057-0, 202-480-9	Carcinogenic	0.02	ND



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214	2-(4-tert-butylbenzyl) propionaldehyde and its individual stereoisomers	-	-	Toxic for reproduction	0.02	ND
215	4,4'-(1-methylpropylidene)bisphe nol; (bisphenol B)	77-40-7	201-025-1	Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
216	Glutaral	111-30-8	203-856-5	Equivalent level of concern having probable serious effects on human health	0.02	ND
217	Medium-chain chlorinated paraffins (MCCP) [UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17]	-	-	PBT; vPvB	0.02	ND
218	Orthoboric acid, sodium salt*	13840-56-7	237-560-2	Toxic for reproduction	0.02	ND
219	Phenol, alkylation products (mainly in para position) with C12-rich branched or linear alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	-	Toxic for reproduction; Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
220	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene] bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	-	Equivalent level of concern having probable serious effects on human health	0.02	ND
221	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol (DBMC)	119-47-1	204-327-1	Toxic for reproduction	0.02	ND
222	S-(tricyclo[5.2.1.0 <sup>2,6</sup> ] deca-3-en-8(or 9)-yl) O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	401-850-9	PBT	0.02	ND
223	tris(2-methoxyethoxy) vinylsilane	1067-53-4	213-934-0	Toxic for reproduction	0.02	ND



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224	N-(hydroxymethyl) acrylamide	924-42-5	213-103-2	Carcinogenic; Mutagenic	0.02	ND
225	1,1'-[ethane-1,2-diylbis(oxy)]bis[2,4,6-tribromobenzene](BTBPE)	37853-59-1	253-692-3	vPvB	0.02	ND
226	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol)(TBBPA)	79-94-7	201-236-9	Carcinogenic	0.02	ND
227	4,4'-sulphonyldiphenol(Bisphenol S, BPS)	80-09-1	201-250-5	Toxic for reproduction; Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
228	Barium diborontetraoxide	13701-59-2	237-222-4	Toxic for reproduction	0.02	ND
229	Bis(2-ethylhexyl) tetrabromophthalate (TBPH)	-	-	vPvB	0.02	ND
230	Isobutyl 4-hydroxybenzoate(Isobutyl paraben)	4247-02-3	224-208-8	Equivalent level of concern having probable serious effects on human health	0.02	ND
231	Melamine	108-78-1	203-615-4	Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
232	Perfluoroheptanoic acid (PFHpA) and its salts	-	-	Toxic for reproduction; PBT; vPvB; Equivalent level of concern having probable serious effects on the environment & human health	0.02	ND
233	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-	473-390-7	vPvB	0.02	ND



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234	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	278-355-8	Suspected to be Toxic to Reproduction; A majority of data submitters agree this substance is Skin sensitising	0.02	ND
235	Bis(4-chlorophenyl) sulphone	80-07-9	201-247-9	Under assessment as Persistent, Bioaccumulative and Toxic	0.02	ND
236	2,4,6-tri-tert-butylphenol	732-26-3	211-989-5	Toxic to Reproduction, Skin sensitising, Under assessment as Persistent, Bioaccumulative and Toxic	0.02	ND
237	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol	3147-75-9	211-573-5	Under assessment as Persistent, Bioaccumulative and Toxic	0.02	ND
238	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	119344-86-4	438-340-0	-	0.02	ND
239	Bumetizole	3896-11-5	223-445-4	Under assessment as Persistent, Bioaccumulative and Toxic	0.02	ND
240	Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol	-	700-960-7	A majority of data submitters agree this substance is Skin sensitizing, Under assessment as Persistent, Bioaccumulative and Toxic, Under assessment as Endocrine Disrupting	0.02	ND
241	Bis( $\alpha,\alpha$ -dimethylbenzyl) peroxide	80-43-3	201-279-3	Toxic for reproduction (Article 57c)	0.02	ND
242	Triphenyl Phosphate	115-86-6	204-112-2	Endocrine disrupting properties (Article 57(f) - environment)	0.02	ND
243	6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	2156592-54-8	701-118-1	Toxic for reproduction (Article 57c)	0.02	ND
244	O,O,O-triphenyl phosphorothioate	597-82-0	209-909-9	Persistent, bioaccumulative and toxic, PBT (Article 57d)	0.02	ND



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245	Octamethyltrisiloxane	107-51-7	203-497-4	Very persistent, very bioaccumulative, vPvB(Article 57e)	0.02	ND
246	Perfluamine	338-83-0	206-420-2	Very persistent, very bioaccumulative, vPvB(Article 57e)	0.02	ND
247	Reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	192268-65-8	421-820-9	Persistent, bioaccumulative and toxic, PBT(Article 57d)	0.02	ND
248	1,1,1,3,5,5,5-heptamethyl-3-[(trimethylsilyloxy)trisiloxane	17928-28-8	241-867-7	vPvB (Article 57e)	0.02	ND
249	decamethyltetrasiloxane	141-62-8	205-491-7	vPvB (Article 57e)	0.02	ND
250	tetra(sodium/potassium) 7-[(E)-{2-acetamido-4-[(E)-(4-[[4-chloro-6-({2-[(4-fluoro-6-[[4-(vinylsulfonyl)phenyl]amino}-1,3,5-triazine-2-yl)amino]propyl)amino]-1,3,5-triazine-2-yl]amino}-5-sulfonato-1-naphthyl)diazanyl]-5-methoxyphenyl)diazanyl]-1,3,6-naphthalenetrisulfonate; Reactive Brown 51	-	466-490-7	Toxic for reproduction (Article 57c)	0.02	ND
251	1,1'-(ethane-1,2-diyl)bis[pentabromobenzene] (DBDPE)	84852-53-9	284-366-9	vPvB (Article 57e)	0.02	ND
252	n-hexane	110-54-3	203-777-6	Specific target organ toxicity after repeated exposure (Article 57(f) - human health)	0.02	ND
253	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and its salts	-	-	Toxic for reproduction (Article 57c)	0.02	ND

- (1) CAS no. 7789-12-0 refers to sodium dichromate dehydrate.
- (2) CAS no. 10588-01-9 refers to anhydrous sodium dichromate.
- (3) CAS no. 3194-55-6 refers to a specific HBCDD - 1, 2, 5, 6, 9, 10-hexabromocyclododecane.
- (4) CAS no. 25637-99-4 refers to unspecific HBCDD isomer composition.
- (5) CAS no. 1330-43-4 refers to disodium tetraborate, anhydrous.
- (6) CAS no. 12179-04-3 refers to sodium tetraborate, pentahydrate.
- (7) CAS no. 1303-96-4 refers to sodium tetraborate, decahydrate.

Method: Analysis is based on GC, LC, IC, ICP, UV-vis with various detection techniques and XRF.



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# TEST REPORT

(시험 성적서)

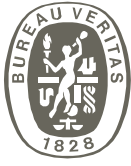
Report No. (시험성적서 번호) : (8226)185-0001-021-E2

Date Issued (발행일자) : 2026. 02. 23

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Name / Type of Product (제품명/형식) : Tin Free Steel

- Remark:
1. PBT = Persistent, bio accumulative and toxic as defined in Regulation (EC) No 1907/2006.
  2. vPvB = Very persistent and very bio accumulative as defined in Regulation (EC) No 1907/2006.
  3. ND = Not Detected.
  4. NA = Not Applicable.
  5. # = Reference with client information(attachment\_), \_haven't been tested and consider as ND
  6. ## = Reference with client information(attachment\_), \_haven't been tested and consider as NA
  7. \*Result is based on the heavy metal or inorganic element concentration. Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
  8. \*\*Result is identified by tributyltin (TBT). Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
  9. <sup>§</sup>TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione) and  $\beta$ -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione) are reported as a mixture.
  10. <sup>a</sup>Refer to Aluminosilicate, Refractory Ceramic Fibres fulfil 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 ( $\mu$ m) c) alkaline oxide and alkali earth oxide (Na<sub>2</sub>O+K<sub>2</sub>O+CaO+MgO+BaO) content less or equal to 18% by weight.
  11. <sup>b</sup>Refer to Zirconia Aluminosilicate, Refractory Ceramic Fibres fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium 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 ( $\mu$ m). c) alkaline oxide and alkali earth oxide (Na<sub>2</sub>O+K<sub>2</sub>O+CaO+MgO+BaO) content less or equal to 18% by weight.
  12. <sup>+</sup>[1,2-Benzenedicarboxylic acid, dipentylester, branched and linear] is a mixture of phthalates contains DPP, DIPP and N-pentyl-isopentylphthalate.
  13. <sup>z</sup>PFOA and APFO are reported together. The result is based on PFOA concentration. Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
  14. <sup>++</sup>[1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear] is a mixture of phthalates contains dihexyl phthalate.
  15. <sup>cb</sup>Result is based on the tin metal concentration, and further confirmation for checking DBT, DOTE & MOTE concentration.



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# TEST REPORT

(시험 성적서)

**Report No.** (시험성적서 번호) : **(8226)185-0001-021-E2**

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Name / Type of Product (제품명/형식) : Tin Free Steel

**Note:**

1. The limit of 0.1% (w/w) applies to an article. The results were calculated assuming as the submitted sample was an article. However, the results may not be applicable if the intended use of the sample is a substance or mixture. According to REACH, definition of an article, substance and mixture are:
  - i. Article - An object during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition
  - ii. Substance - A chemical element and its compound in the natural state or obtained by any manufacturing process
  - iii. Mixture (Previously known as “Preparation”) - A mixture or solution composed of two or more substances
2. In accordance of Article 7 of Regulation (EC) No. 1907/2006 (REACH regulation) – Registration and notification of substances in articles, any producer or importer of articles shall notify ECHA, if a substance meets in criteria in Article 57 and is identified in accordance with Article 59(1), if both (1) the substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year & (2) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w) are met. The information to be notified shall include (a) identity and contact details of the producer or importer, (b) the registration numbers, (c) the identity of the substance and (d) the classification of the substance, (e) a brief description of the use of the substance and (f) the tonnage range of the substance.
3. In accordance of Article 33 of Regulation (EC) No. 1907/2006 (REACH regulation) – Duty to communicate information on substances in articles, any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance. On request by a consumer the relevant information shall be provided by any supplier of an article free of charge, within 45 days of receipt of the request.



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# TEST REPORT

(시험 성적서)

Report No. (시험성적서 번호) : (8226)185-0001-021-E2

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## Photo of the Submitted Sample

(시료 접수 시 시료 상태)





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# TEST REPORT

(시험 성적서)

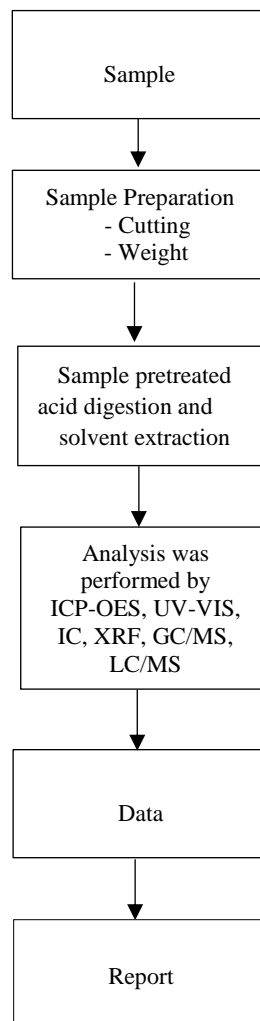
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## Test Flowchart of SVHC Content



- End of Report -