

測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 1 of 17

中國鋼鐵股份有限公司

CHINA STEEL CORPORATION

高雄市小港區中鋼路1號

1 CHUNG KANG ROAD, HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as) :

樣品名稱(Sample Description) : 中鋼電磁鋼片(CHINA STEEL CORPORATION MAGNETIC STEEL COIL)
 樣品型號(Style/Item No.) : 混合型C628塗膜(C6-TYPE COATING)
 收件日期(Sample Receiving Date) : 2014/11/11
 測試期間(Testing Period) : 2014/11/11 TO 2014/11/17 AND 2014/12/30 TO 2015/01/12 AND 2015/07/07 TO 2015/07/13
 送樣廠商(Sample Submitted By) : 中國鋼鐵股份有限公司 (CHINA STEEL CORPORATION)

測試需求(Test Requested) : 163項高關注物質篩檢及額外的項目是依客戶特定要求。高關注物質候選清單是根據歐洲化學總署(ECHA)於2015年06月15日，就關於REACH之Regulation (EC) No 1907/2006的公告。/ 163 Substances of Very High Concern (SVHC) screening in addition of item(s) by specific client's request. SVHC candidate list based on the publication by European Chemicals Agency (ECHA) on 2015 June 15, regarding Regulation (EC) No 1907/2006 concerning the REACH.

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).
總結(Summary) : 根據歐洲化學總署及絕大部分歐盟會員國對於成品定義詮釋以及依據指定範圍和分析技術，送測樣品的高關注物質(SVHC)濃度均小於0.1% (According to the interpretation of ECHA and the majority of EU member states on the definition of an article as well as the specified scope and analytical technique, concentrations of all SVHC are <0.1% in the submitted sample(s)).

* 此份報告為加測KA/2014/B0621及合併KA/2014/B0621B-01之報告 *

(This report is added testing by KA/2014/B0621 and combined with KA/2014/B0621B-01)



Ray Chang, Ph.D. / Manager, Test
Signed for and on behalf of
SGS Taiwan Limited
Chemical Laboratory-Kaohsiung

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號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 2 of 17

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測試樣品(Test Sample):

銀色 中鋼電磁鋼片(CHINA STEEL CORPORATION MAGNETIC STEEL COIL) (SILVER 中鋼電磁鋼片(CHINA STEEL CORPORATION MAGNETIC STEEL COIL))

測試方法(Test Method):

參照SGS內部方法RSTS-EE-SVHC-007. 由感應耦合電漿原子發射光譜儀、紫外光可見光譜儀、氣相層析/質譜儀、液相層析質譜儀、氣相層析儀/火焰光度偵測器、液相層析/質譜儀/二極體陣列偵測器進行分析。(SGS In-House method-RSTS-EE-SVHC-007. Analyzed by ICP-AES, UV-VIS, GC/MS, LC/MS, GC/FPD, LC/MS/DAD.)

備註(Remark):

- 163項SVHC化學分析, 依歐洲化學總署(ECHA)於2015年06月15日所公佈的清單, 藉由現有的分析技術進行篩檢。(The chemical analysis of 163 SVHC is performed by means of currently available analytical techniques against the list published by ECHA on 2015 June 15.)

請參照(refer to) <http://echa.europa.eu/web/guest/candidate-list-table>

- 根據Regulation (EC) No 1907/2006 中第7條款第2項之規定, 如果物質合乎第57條款之標準以及可依據第59(1)條之規定鑑別, 且同時符合下列兩項狀況, 任何成品之製造人和進口人應向歐洲化學總署(ECHA)通報:

- (a) 成品中所含物質每年超過1公噸。
- (b) 依重量百分比計算, 物質濃度超過0.1%。

In accordance with Regulation (EC) No 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 2 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation,

if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w).

- Regulation (EC) No 1907/2006 中第 33 條要求成品供應商, 其成品所含物質符合第57條款的標準並依照第59(1)條款確定其濃度大於0.1wt%, 應提供成品接受者充份可取得資訊, 以確保成品的安全使用(至少包括物質的名稱)。

Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a 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.

- 倘若SVHC超過限值, 建議客戶確認含有該SVHC的零件, 並要求實驗室進一步的定量分析而取得SVHC的確切濃度。

If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

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Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 3 of 17

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測試結果 (Test Results)

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
蒽 / Anthracene (CAS No.: 120-12-7)	0.05	n.d.	PBT
4,4' - 二氨基二苯甲烷 / 4,4' - Diaminodiphenylmethane (CAS No.: 101-77-9)	0.05	n.d.	CC2
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	0.05	n.d.	TRC 1B
鄰苯二甲酸丁苯甲酯 / BBP (Butyl benzyl phthalate) (CAS No.: 85-68-7)	0.05	n.d.	TRC 1B
鄰苯二甲酸二(2-乙基己基)酯 / Bis(2-ethyl(hexyl) phthalate) (DEHP) (CAS No.: 117-81-7)	0.05	n.d.	EQC
二甲苯麝香 / 5-tert-butyl-2,4,6-trinitro- m-xylene (Musk Xylene) (CAS No.: 81-15-2)	0.05	n.d.	vPvB
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	0.05	n.d.	PBT
短鏈氯化石蠟 / Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 85535-84-8)	0.05	n.d.	PBT
氧化雙三丁基錫 / Bis(tributyltin)oxide (TBTO)*** (CAS No.: 56-35-9)	-	n.d.	PBT
二氯化鈷 / Cobalt dichloride (CAS No.: 7646-79-9)	0.005	n.d.	CC2; TRC2
五氧化二砷 / Diarsenic pentaoxide*** (CAS No.: 1303-28-2)	-	n.d.	CC1
三氧化二砷 / Diarsenic trioxide*** (CAS No.: 1327-53-3)	-	n.d.	CC1
三乙基砷酸酯 / Triethyl arsenate*** (CAS No.: 15606-95-8)	-	n.d.	CC1
砷酸氫鉛 / Lead hydrogen arsenate*** (CAS No.: 7784-40-9) (※1)	-	n.d.	CC1; TRC1
鉻酸鈉 / Sodium chromate*** (CAS No.: 7775-11-3)	-	n.d.	CC2; MC2; TRC2
重鉻酸銨 / Ammonium dichromate*** (CAS No.: 7789-09-5)	-	n.d.	CC2; MC2; TRC2
重鉻酸鉀 / Potassium dichromate*** (CAS No.: 7778-50-9)	-	n.d.	CC2; MC2; TRC2
鉻酸鉀 / Potassium chromate*** (CAS No.: 7789-00-6)	-	n.d.	CC2; MC2
重鉻酸鈉 / Sodium dichromate*** (CAS No.: 10588-01-9, 7789-12-0(*)	-	n.d.	CC2; MC2; TRC2

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物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
三氧化鉻 / Chromium trioxide *** (CAS No.: 1333-82-0)	-	n.d.	CC2; MC2
從三氧化鉻與其它寡聚體生成的酸類: 鉻酸 / Acids generated from chromium trioxide and their oligomers: Chromic acid*** (CAS No.: 7738-94-5)	-	n.d.	CC2
從三氧化鉻與其它寡聚體生成的酸類: 重鉻酸 / Acids generated from chromium trioxide and their oligomers: Dichromic acid*** (CAS No.: 13530-68-2)	-	n.d.	CC2
從三氧化鉻與其它寡聚體生成的酸類: 鉻酸與重鉻酸的寡聚體 / Acids generated from chromium trioxide and their oligomers: Oligomers of chromic acid and dichromic acid (*1)	-	n.d.	CC2
鉻酸鋇 / Strontium chromate*** (CAS No.: 7789-06-2)	-	n.d.	CC2
蔥油 / Anthracene oil (CAS No.: 90640-80-5) (**)	0.05	n.d.	PBT; vPvB; CC2
蔥油, 蔥糊, 輕油 / Anthracene oil, anthracene paste, distn. Lights (CAS No.: 91995-17-4) (**)	0.05	n.d.	PBT
蔥油, 蔥糊, 蔥縮分 / Anthracene oil, anthracene paste, anthracene fraction (CAS No.: 91995-15-2) (**)	0.05	n.d.	PBT; vPvB; CC2; MC2
蔥油, 含蔥量少 / Anthracene oil, anthracene-low (CAS No.: 90640-82-7) (**)	0.05	n.d.	PBT; vPvB; CC2; MC2
蔥油, 蔥糊 / Anthracene oil, anthracene paste (CAS No.: 90640-81-6) (**)	0.05	n.d.	PBT; vPvB; CC2; MC2
煤瀝青, 高溫 / Pitch, coal tar, high-temp. (CAS No.: 65996-93-2) (**)	0.05	n.d.	PBT; vPvB; CC2
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	0.05	n.d.	TRC 1B
2,4-二硝基甲苯 / 2,4-Dinitrotoluene (CAS No.: 121-14-2)	0.05	n.d.	CC2
磷酸三(2-氯乙基)酯 / Tris(2-chloroethyl) phosphate (TCEP) (CAS No.: 115-96-8)	0.05	n.d.	TRC2
鉻酸鉛 / Lead chromate (CAS No.: 7758-97-6)	0.01	n.d.	CC2; TRC1
鉬鉻紅; 顏色索引: 顏料紅104 / Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (CAS No.: 12656-85-8)	0.01	n.d.	CC2; TRC1
鉻酸鉛; 顏色索引: 顏料黃34 / Lead sulfochromate yellow (C.I. Pigment Yellow 34) (CAS No.: 1344-37-2)	0.01	n.d.	CC2; TRC1

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頁數(Page): 5 of 17

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丙烯醯胺 / Acrylamide (CAS No.: 79-06-1)	0.05	n.d.	CC2; MC2
硼酸 / Boric acid*** (CAS No.: 10043-35-3; 11113-50-1)	-	n.d.	TRC2
無水四硼酸二鈉 / Disodium tetraborate, anhydrous*** (CAS No.: 1303-96-4, 1330-43-4, 12179-04-3)	-	n.d.	TRC2
水合硼酸鈉 / Tetraboron disodium heptaoxide, hydrate (CAS No.: 12267-73-1) (*2)	-	n.d.	TRC2
三氯乙烯 / Trichloroethylene (CAS No.: 79-01-6)	0.05	n.d.	CC2
硫酸鈷(二價) / Cobalt(II) sulphate*** (CAS No.: 10124-43-3)	-	n.d.	CC2; TRC2
硝酸鈷(二價) / Cobalt(II) dinitrate*** (CAS No.: 10141-05-6)	-	n.d.	CC2; TRC2
碳酸鈷(二價) / Cobalt(II) carbonate*** (CAS No.: 513-79-1)	-	n.d.	CC2; TRC2
醋酸鈷(二價) / Cobalt(II) diacetate*** (CAS No.: 71-48-7)	-	n.d.	CC2; TRC2
乙二醇甲醚 / 2-Methoxyethanol (CAS No.: 109-86-4)	0.05	n.d.	TRC2
乙二醇乙醚 / 2-Ethoxyethanol (CAS No.: 110-80-5)	0.05	n.d.	TRC2
乙二醇乙醚乙酸酯 / 2-ethoxyethyl acetate (CAS No.: 111-15-9)	0.05	n.d.	TRC2
鄰苯二甲酸二(C7-11支鏈與直鏈)烷基酯 / 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (CAS No.: 68515-42-4)	0.05	n.d.	TRC2
聯氨 / Hydrazine (CAS No.: 7803-57-8; 302-01-2)	0.05	n.d.	CC2
N-甲基吡咯烷酮 / 1-methyl-2-pyrrolidone (CAS No.: 872-50-4)	0.05	n.d.	TRC2
1,2,3-三氯丙烷 / 1,2,3-trichloropropane (CAS No.: 96-18-4)	0.05	n.d.	CC2; TRC2
鄰苯二甲酸二(C6-8支鏈與直鏈)烷基酯, 富C7 / 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (CAS No.: 71888-89-6)	0.05	n.d.	TRC2
砷酸 / Arsenic acid*** (CAS No.: 7778-39-4)	-	n.d.	CC1
砷酸鈣 / Calcium arsenate*** (CAS No.: 7778-44-1)	-	n.d.	CC1
砷酸鉛 / Trilead diarsenate*** (CAS No.: 3687-31-8) (※1)	-	n.d.	CC1; TRC1
疊氮化鉛 / Lead diazide, Lead azide*** (CAS No.: 13424-46-9)	-	n.d.	TRC1
中性斯蒂芬酸鉛 / Lead styphnate*** (CAS No.: 15245-44-0)	-	n.d.	TRC1
苦味酸鉛 / Lead dipicrate*** (CAS No.: 6477-64-1)	-	n.d.	TRC1
鉻酸鉻 / Dichromium tris (chromate)*** (CAS No.: 24613-89-6)	-	n.d.	CC2

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頁數(Page): 6 of 17

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物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
氫氧化鉻酸鉀 / Potassium hydroxyoctaoxidizincatedi- chromate*** (CAS No.: 11103-86-9)	-	n.d.	CC1
八氫氧化五鉻酸鉀 / Pentazinc chromate octahydroxide*** (CAS No.: 49663-84-5)	-	n.d.	CC1
甲醛與苯胺的寡聚體 / Formaldehyde, oligomeric reaction products with aniline (technical MDA) (CAS No.: 25214-70-4)	0.05	n.d.	CC2
鄰苯二甲酸二甲氧基乙酯 / Bis(2-methoxyethyl) phthalate (CAS No.: 117-82-8)	0.05	n.d.	TRC2
鄰甲氧基苯胺 / 2-Methoxyaniline; o-Anisidine (CAS No.: 90-04-0)	0.05	n.d.	CC2
對特辛基苯酚 / 辛基酚 / 4-(1,1,3,3-tetramethylbutyl) phenol, (4- tert-Octylphenol) (CAS No.: 140-66-9)	0.05	n.d.	相同危害等級 (Equivalent concern)
1,2-二氯乙烷 / 1,2-Dichloroethane (CAS No.: 107-06-2)	0.05	n.d.	CC2
雙(2-甲氧基乙基)醚 / Bis(2-methoxyethyl) ether (CAS No.: 111-96- 6)	0.05	n.d.	TRC2
N,N-二甲基乙醯胺 / N,N-dimethylacetamide (DMAC) (CAS No.: 127-19- 5)	0.05	n.d.	TRC2
4,4'-亞甲雙(2-氯苯胺) / 2,2'-dichloro- 4,4'-methylenedianiline (MOCA) (CAS No.: 101-14-4)	0.05	n.d.	CC2
酚酞 / Phenolphthalein (CAS No.: 77-09-8)	0.05	n.d.	CC2
矽酸鋁, 耐火陶瓷纖維 (主要成分濃度於可變範圍內) / Aluminosilicate, Refractory Ceramic Fibres oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges	0.05	n.d.	CC2
鋁矽酸鋁, 耐火陶瓷纖維 (主要成分濃度於可變範圍內) / Zirconia Aluminosilicate, Refractory Ceramic Fibres oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges	0.05	n.d.	CC2
三甘醇二甲醚 / 1,2-bis (2-methoxyethoxy) ethane (TEGDME; triglyme) (CAS No.: 112-49-2)	0.05	n.d.	TRC2
乙二醇二甲醚 / 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) (CAS No.: 110-71-4)	0.05	n.d.	TRC2
甲醯胺 / Formamide (CAS No.: 75-12-7)	0.05	n.d.	TRC2

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 7 of 17

中國鋼鐵股份有限公司

CHINA STEEL CORPORATION

高雄市小港區中鋼路1號

1 CHUNG KANG ROAD, HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
甲基磺酸鉛 / Lead(II) bis(methanesulfonate)*** (CAS No.: 17570-76-2)	-	n.d.	TRC2
異氰尿酸三縮水甘油酯 / TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6 (1H,3H,5H)-trione) (CAS No.: 2451-62-9)	0.05	n.d.	MC2
異氰尿酸β-三縮水甘油酯 / β-TGIC (1,3,5-tris [(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6- (1H,3H,5H)-trione) (CAS No.: 59653-74-6) (※3)	0.05	n.d.	MC2
4,4'-二(N,N-二甲氨基)二苯甲酮 (米氏酮) / 4,4'-bis (dimethylamino) benzophenone (Michler's ketone) (CAS No.: 90-94-8)	0.05	n.d.	CC2
4,4'-(對二甲氨基)二苯基甲烷 (米氏鹼) / N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) (CAS No.: 101-61-1)	0.05	n.d.	CC2
鹼性紫 3 [內含≥ 0.1% 的米氏酮或米氏鹼] / [4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3) (CAS No.: 548-62-9) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n.d.	CC2
鹼性藍 26 [內含≥ 0.1% 的米氏酮或米氏鹼] / [4-[[4-anilino-1-naphthyl] [4-(dimethylamino) phenyl] methylene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) (CAS No.: 2580-56-5) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n.d.	CC2
溶劑藍 4 [內含≥ 0.1% 的米氏酮或米氏鹼] / α,α-Bis[4-(dimethylamino) phenyl]-4 (phenylamino) naphthalene-1-methanol (C.I. Solvent Blue 4) (CAS No.: 6786-83-0) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n.d.	CC2
三氧化二硼 / Diboron trioxide*** (CAS No.: 1303-86-2)	-	n.d.	TRC2
α,α-二((二甲氨基)苯基)-4-甲氨基苯甲醇 [內含≥ 0.1% 的米氏酮或米氏鹼] / 4,4'-bis (dimethylamino)-4''-(methylamino) trityl alcohol (CAS No.: 561-41-1) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n.d.	CC2
十溴聯苯醚 / Bis(pentabromophenyl) ether (DecaBDE) (CAS No.: 1163-19-5)	0.05	n.d.	PBT

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 8 of 17

中國鋼鐵股份有限公司

CHINA STEEL CORPORATION

高雄市小港區中鋼路1號

1 CHUNG KANG ROAD, HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
全氟十三酸 / Pentacosafuorotridecanoic acid (CAS No.: 72629-94-8)	0.05	n.d.	PBT
全氟十二酸 / Tricosafuorododecanoic acid (CAS No.: 307-55-1)	0.05	n.d.	PBT
全氟十一酸 / Henicosafluoroundecanoic acid (CAS No.: 2058-94-8)	0.05	n.d.	PBT
全氟十四酸 / Heptacosafuorotetradecanoic acid (CAS No.: 376-06-7)	0.05	n.d.	PBT
4-(1,1,3,3-四甲基丁基)苯酚, 乙氧基— 以及所有的被定義的物質, 未知成分或可變成分的物質, 聚合物和同系物 / 4-(1,1,3,3-tetramethylbutyl) phenol, ethoxylated- covering well-defined substances and UVCB substances, polymers and homologues	0.05	n.d.	相同危害等級 (Equivalent concern)
分支或線性的壬基酚, 包括含有9個碳烷基鏈的所有獨立的分同異構體和所有含有線性或分支9個碳烷基鏈的UVCB物質 / 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	0.05	n.d.	相同危害等級 (Equivalent concern)
偶氮(二)甲醯胺 / Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (CAS No.: 123-77-3)	0.05	n.d.	相同危害等級 (Equivalent concern)
六氫苯二甲酸酐 / Cyclohexane-1,2-dicarboxylic anhydride (HHPA), cis-cyclohexane-1,2- dicarboxylic anhydride, trans-cyclohexane-1,2- dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA) (CAS No.: 85-42-7, 13149-00-3, 14166-21-3)	0.05	n.d.	相同危害等級 (Equivalent concern)
甲基六氫苯酐 / Hexahydromethylphthalic anhydride (CAS No.: 25550-51-0) 4-甲基六氫苯酐 / Hexahydro-4-methylphthalic anhydride (CAS No.: 19438-60-9) 1-甲基六氫苯酐 / Hexahydro-1-methylphthalic anhydride (CAS No.: 48122-14-1) 3-甲基六氫苯酐 / Hexahydro-3-methylphthalic anhydride (CAS No.: 57110-29-9)	0.05	n.d.	相同危害等級 (Equivalent concern)
甲氧基乙酸 / Methoxy acetic acid (CAS No.: 625-45-6)	0.05	n.d.	TRC2
支鏈和直鏈1,2-苯二羧二戊酯 / 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (CAS No.: 84777-06-0)	0.05	n.d.	TRC2
鄰苯二甲酸二異戊酯 / Diisopentylphthalate (CAS No.: 605-50-5)	0.05	n.d.	TRC2

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 9 of 17

中國鋼鐵股份有限公司

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物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
鄰苯二甲酸正戊基異戊基酯 / N-pentyl-isopentylphthalate (CAS No.: 776297-69-9)	0.05	n.d.	TRC2
乙二醇二乙醚 / 1,2-Diethoxyethane (CAS No.: 629-14-1)	0.05	n.d.	TRC2
N,N-二甲基甲醯胺 / N,N-dimethylformamide; dimethyl formamide (CAS No.: 68-12-2)	0.05	n.d.	TRC2
二氯二丁基錫 / Dibutyltin dichloride (DBTC)*** (CAS No.: 683-18-1)	-	n.d.	TRC 1B
城式醋酸鉛 / Acetic acid, lead salt, basic*** (CAS No.: 51404-69-4)	-	n.d.	TRC1
城式碳酸鉛 / Trilead bis(carbonate) dihydroxide (basic lead carbonate)*** (CAS No.: 1319-46-6)	-	n.d.	TRC1
城式硫酸鉛 / Lead oxide sulfate*** (CAS No.: 12036-76-9)	-	n.d.	TRC1
[1,2-苯二羧酸根合]二氧化三鉛 / [Phthalato(2-)] dioxotrilead*** (CAS No.: 69011-06-9)	-	n.d.	TRC1
雙(十八酸基)二氧代三鉛 / Dioxobis(stearato) trilead*** (CAS No.: 12578-12-0)	-	n.d.	TRC1
C16-18-脂肪酸鉛鹽 / Fatty acids, C16-18, lead salts*** (CAS No.: 91031-62-8)	-	n.d.	TRC1
氰基氰鉛鹽 / Lead cyanamidate*** (CAS No.: 20837-86-9)	-	n.d.	TRC1
硝酸鉛 / Lead dinitrate*** (CAS No.: 10099-74-8)	-	n.d.	TRC1
氧化鉛 / Lead oxide (lead monoxide)*** (CAS No.: 1317-36-8)	-	n.d.	TRC1
四氧化鉛 / Lead tetroxide (orange lead)*** (CAS No.: 1314-41-6)	-	n.d.	TRC1
氧化鉛與硫酸鉛的複合物 / Pentalead tetraoxide sulphate*** (CAS No.: 12065-90-6)	-	n.d.	TRC1
矽酸鉛 / Silicic acid, lead salt*** (CAS No.: 11120-22-2)	-	n.d.	TRC1
亞硫酸鉛(II) / Sulfurous acid, lead salt, dibasic*** (CAS No.: 62229-08-7)	-	n.d.	TRC1
四乙基鉛 / Tetraethyllead*** (CAS No.: 78-00-2)	-	n.d.	TRC1
三鹼式硫酸鉛 / C.I. 顏料白 / Tetralead trioxide sulphate*** (CAS No.: 12202-17-4)	-	n.d.	TRC1

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 10 of 17

中國鋼鐵股份有限公司

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物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
四氟硼酸鉛 (II) / Lead bis(tetrafluoroborate)*** (CAS No.: 13814-96-5)	-	n.d.	TRC1
鈦酸鉛 / Lead titanium trioxide*** (CAS No.: 12060-00-3)	-	n.d.	TRC1
鈦酸鉛鋯 / Lead Titanium Zirconium Oxide*** (CAS No.: 12626-81-2)	-	n.d.	TRC1
C.I.顏料黃41 / Pyrochlore, antimony lead yellow*** (CAS No.: 8012-00-8)	-	n.d.	TRC1
磷酸氧化鉛 / Trilead dioxide phosphonate*** (CAS No.: 12141-20-7)	-	n.d.	TRC1
含鉛的矽酸鋇 / Silicic acid, barium salt, lead-doped*** (CAS No.: 68784-75-8)	-	n.d.	TRC1
呋喃 / Furan (CAS No.: 110-00-9)	0.05	n.d.	CC2
環氧丙烷 / Propylene oxide; 1,2-epoxypropane; methyloxirane (CAS No.: 75-56-9)	0.05	n.d.	CC2; MC2
硫酸二乙酯 / Diethyl sulphate (CAS No.: 64-67-5)	0.05	n.d.	CC2; MC2
硫酸二甲酯 / Dimethyl sulphate (CAS No.: 77-78-1)	0.05	n.d.	CC2
3-乙基-2-甲基-2-(3-甲基丁基)-1,3-惡唑烷 / 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine (CAS No.: 143860-04-2)	0.05	n.d.	TRC2
2-(1-甲基丙基)-4,6-二硝基苯胺 / Dinoseb (CAS No.: 88-85-7)	0.05	n.d.	TRC2
4,4'-二氨基-3,3'-二甲基聯苯基甲烷 / 4,4'-methylenedi-o-toluidine (CAS No.: 838-88-0)	0.05	n.d.	CC2
4,4'-二氨基二苯醚 / 4,4'-oxydianiline and its salts (CAS No.: 101-80-4)	0.05	n.d.	CC2; MC2
4-苯基偶氮基苯胺 / 4-Aminoazobenzene; 4-Phenylazoaniline (CAS No.: 60-09-3)	0.05	n.d.	CC2
2,4-二氨基甲苯 / 4-methyl-m-phenylenediamine (2,4-toluenediamine) (CAS No.: 95-80-7)	0.05	n.d.	CC2
3-甲基-6-甲氧基苯胺 / 6-methoxy-m-toluidine (p-cresidine) (CAS No.: 120-71-8)	0.05	n.d.	CC2
4-胺基聯苯 / Biphenyl-4-ylamine (CAS No.: 92-67-1)	0.05	n.d.	CC1
鄰氨基偶氮甲苯 / o-aminoazotoluene (CAS No.: 97-56-3)	0.05	n.d.	CC2
鄰甲苯胺 / o-Toluidine; 2-Aminotoluene (CAS No.: 95-53-4)	0.05	n.d.	CC2

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 11 of 17

中國鋼鐵股份有限公司

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N-甲基乙醯胺 / N-methylacetamide (CAS No.: 79-16-3)	0.05	n.d.	TRC2
正丙基溴 / 1-bromopropane (CAS No.: 106-94-5)	0.05	n.d.	TRC2
全氟辛酸 / Pentadecafluorooctanoic acid (PFOA) (CAS No.: 335-67-1)	0.05	n.d.	TRC 1B & PBT
全氟辛酸銨 / Ammoniumpentadecafluorooctanoate (APFO)*** (CAS No.: 3825-26-1)	0.05	n.d.	TRC 1B & PBT
鎘 / Cadmium (Cd) (CAS No.: 7440-43-9)	0.005	n.d.	CC 1B & EQC
氧化鎘 / Cadmium oxide*** (CAS No.: 1306-19-0)	-	n.d.	CC 1B & EQC
鄰苯二甲酸二戊酯 / DPP (Di-pentyl phthalate) (CAS No.: 131-18-0)	0.05	n.d.	TRC 1B
分支或線性的乙氧基壬基酚，包括含有9個碳烷基鏈的所有獨立的同分異構體和所有含有線性或分支9個碳烷基鏈的UVCB物質 / 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]	0.05	n.d.	EQC
鄰苯二甲酸二己酯 / Dihexyl phthalate (CAS No.: 84-75-3)	0.05	n.d.	TRC 1B
直接紅28 / Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) (CAS No.: 573-58-0)	0.05	n.d.	CC 1B
直接黑38 / 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) (CAS No.: 1937-37-7)	0.05	n.d.	CC 1B
亞乙基硫脲 / Imidazolidine-2-thione; 2-imidazoline-2-thiol (CAS No.: 96-45-7)	0.05	n.d.	TRC 1B
磷酸三(二甲苯)酯 / Trixylyl phosphate (CAS No.: 25155-23-1)	0.05	n.d.	TRC 1B
硫化鎘 / Cadmium sulphide*** (CAS No.: 1306-23-6)	-	n.d.	CC 1B & EQC
醋酸鉛 / Lead di(acetate)*** (CAS No.: 301-04-2)	-	n.d.	TRC 1A
鄰苯二甲酸二己酯(支鏈和直鏈) / 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (CAS No.: 68515-50-4)	0.05	n.d.	TRC 1B
氯化鎘 / Cadmium chloride*** (CAS No.: 10108-64-2)	-	n.d.	CC 1B; MC 1B; TRC 1B; EQC
過硼酸鈉 / Sodium perborate; perboric acid, sodium salt***	-	n.d.	TRC 1B
過氧偏硼酸鈉 / Sodium peroxometaborate*** (CAS No.: 7632-04-4)	-	n.d.	TRC 1B

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 12 of 17

中國鋼鐵股份有限公司

CHINA STEEL CORPORATION

高雄市小港區中鋼路1號

1 CHUNG KANG ROAD, HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
2-(2'-羥基-3',5'-二叔-戊基苯基)苯並三唑 (紫外線吸收劑328) / 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) (CAS No.: 25973-55-1)	0.05	n.d.	vPvB & PBT
2-[2-羥基-3',5'-二叔-丁基苯基]-苯並三唑 (紫外線吸收劑320) / 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS No.: 3846-71-7)	0.05	n.d.	vPvB & PBT
氟化鎘 / Cadmium fluoride*** (CAS No.: 7790-79-6)	-	n.d.	CC 1B; MC 1B; TRC 1B; EQC
硫酸鎘 / Cadmium sulphate*** (CAS No.: 10124-36-4; 31119-53-6)	-	n.d.	CC 1B; MC 1B; TRC 1B; EQC
二正辛基-雙(2-乙基己基硫基乙酸酯)錫 / 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)*** (CAS No.: 15571-58-1)	-	n.d.	TRC 1B
二正辛基-雙(2-乙基己基硫基乙酸酯)錫和單辛基-三(2-乙基己基硫基乙酸酯)錫的反應物 / 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-ethylhexyl)oxy]-2-oxoethylthio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)***	-	n.d.	TRC 1B
鄰苯二甲酸二(C6-10)烷基酯; 鄰苯二甲酸二己、二辛、二癸酯混合物; 鄰苯二甲酸二己酯 ≥ 0.3% / 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 (CAS No.: 68515-51-5; 68648-93-1)	0.05	n.d.	TRC 1B
5-二級丁基-2-(2,4-二甲基環己-3-烯-1-基)-5-甲基-1,3-二氧環己烷[1], 5-二級丁基-2-(4,6-二甲基環己-3-烯-1-基)-5-甲基-1,3-二氧環己烷[2], [任何[1]和[2]或者其任意組合的單獨異構物或其任何組合] / 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]	0.05	n.d.	vPvB

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 13 of 17

中國鋼鐵股份有限公司

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除歐洲化學總署(ECHA)於2015年6月15日所公告的SVHC範圍外, 客户要求以下額外的篩檢(Additional screening by client's request outside the scope of SVHC as published by ECHA on 2015 June 15):

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)	分類 (Classification)
環十二烷 / Cyclododecane (CAS No.: 294-62-2)	0.05	n.d.	PBT

備註(Note):

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d.= not detected = below Reporting Limit / 未檢出
3. RL = Reporting Limit / 報告極限值
4. (*): 重鉻酸鈉二水合物(CAS No.: 7789-12-0)含量 = 重鉻酸鈉含量 × 1.1374
(conc. of Sodium dichromate dihydrate = conc. of sodium dichromate × 1.1374)
5. (**): 上述混合物的濃度是經由所獲得的成分比例介於被選擇標靶物及混合物所推估出來。 / The concentrations of above-mentioned mixtures are evaluated per the gained composition rate between the selected marks and the mixtures.
6. "-" = Not Regulated (無規格值)
7. F 參數換算表/F Parameter Conversion Table: Please refer to http://twap.sgs.com/sgsrsts/chn/download-REACH_tw.asp
8. 分類/Classification: Please refer to http://twap.sgs.com/sgsrsts/chn/download-REACH_tw.asp

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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 14 of 17

中國鋼鐵股份有限公司

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9. ***: 該物質是由單辛基錫、二辛基錫、三丁基錫、二丁基錫、全氟辛酸或各別元素 (例如: 砷、鉛、六價鉻、硼、鈷、鋇、鎘)之測試結果計算得知。 / The substance was calculated by the test results of MonooctylTin, Dioctyl Tin, Tributyl Tin, Dibutyl Tin, PFOA or element (Ex. Arsenic, Lead, Cr(VI), Boron, Cobalt, Barium, Cadmium respectively).

測試結果如下(The test result is given as):

物質名稱 (Substance Name)	報告 極限值 (RL)(%)	成品濃度 (Concentration) (%)
三丁基錫 / Tributyl Tin (TBT)	0.05	n.d.
砷 / Arsenic (As) (※2)	0.005	n.d.
鉛 / Lead (Pb)	0.005	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	0.005	n.d.
硼 / Boron (B) (※2)	0.005	n.d.
鈷 / Cobalt (Co)	0.005	n.d.
二辛基錫 / Dioctyl Tin (DOT)	0.0230	n.d.
單辛基錫 / MonooctylTin (MOT)	0.0138	n.d.
二丁基錫 / Dibutyl Tin (DBT)	0.05	n.d.

10. (*1): 鉻酸與重鉻酸的寡聚體: 因為其寡聚體是由未知數的鉻酸或與重鉻酸所組成, 而導致沒有固定分子量, 因此以單體鉻酸或重鉻酸較為重要並應被考慮。 / Oligomers of chromic acid and dichromic acid : since the oligomers are made of the unknown amount of chromic acid or dichromic acid that results in no fixed molecular weight, therefore the monomer of chromic acid or dichromic acid is relevant and considered.
11. (*2): 水合硼酸鈉: 依照歐洲化學總署解釋以無水四硼酸二鈉數據作為代表(歐洲化學總署回信編號 Ref no.: INC 000000032519) / Tetraboron disodium heptaoxide, hydrate: Only anhydrous form of disodium tetraborate is relevant and considered according to ECHA explanation (Ref no.: INC 000000032519).
12. (※1): 此砷鉛化合物之濃度是取砷及鉛兩者各別換算出砷鉛化合物濃度, 並取其最小值做為最後出報告之依據。
(Regarding the compound containing arsenic and lead, lead and arsenic are tested and respectively used for the calculation of the independent concentration of the compound containing arsenic and lead. The minimum value of the two independently calculated concentrations is used as the final concentration for the report.)
13. (※2): 被萃取出之溶出硼/砷是以感應耦合電漿原子發射光譜儀檢測得之。 / The extracted soluble Boron / Arsenic are detected by ICP-AES.

測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 15 of 17

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14. (※3): 由於TGIC本身含有 β -TGIC, 依照ECHA 技術文件 β -TGIC與 TGIC 約為 1:10 比例, 因此 β -TGIC將以1/10 的TGIC計算濃度。/ TGIC is a mixture and also contains β -TGIC. According to the ECHA's technical dossier the ratio of β -TGIC to TGIC is around 1 to 10. Therefore β -TGIC is issued based on the above-mentioned ratio.
15. (※5): 此化合物之濃度是取六價鉻及鉛兩者各別換算出化合物濃度, 並取其最小值做為最後出報告之依據。
(Regarding the compound containing Cr(VI) and lead, lead and Cr(VI) are tested and respectively used for the calculation of the independent concentration of the compound containing Cr(VI) and lead. The minimum value of the two independently calculated concentrations is used as the final concentration for the report.)

測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 16 of 17

中國鋼鐵股份有限公司

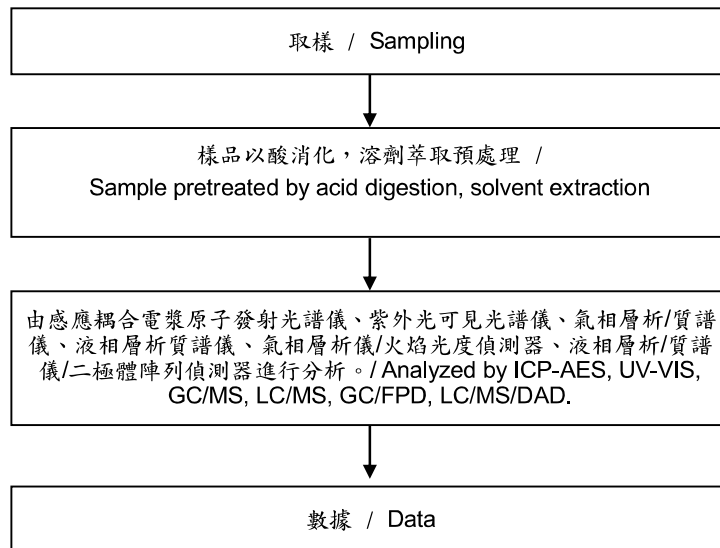
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SVHC 分析流程圖 / Analytical flow chart of SVHC

- 測試人員：劉俊宏/陳威錚/黃璟璿 / Name of the person who made measurement: Jony Liu/Dorothy Chen/Ginny Huang
- 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



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測試報告(SVHC)

Test Report

號碼(No.): KA/2014/B0621B-02 日期(Date): 2015/07/13

頁數(Page): 17 of 17

中國鋼鐵股份有限公司

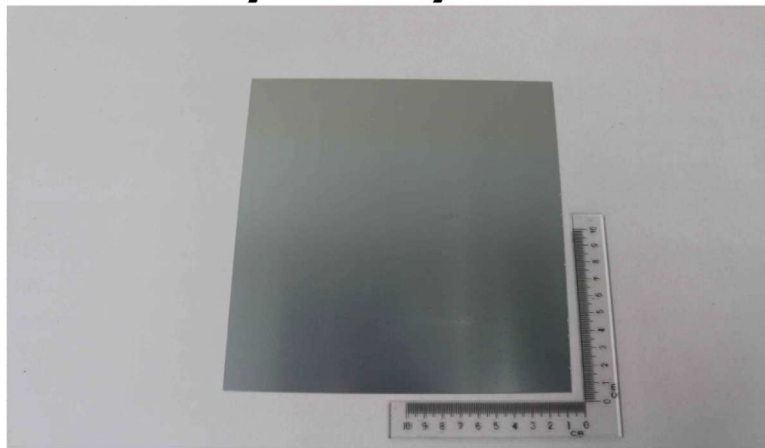
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(The tested sample / part is marked by an arrow if it's shown on the photo.)

KA/2014/B0621



**** 報告結尾(End of Report) ****

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