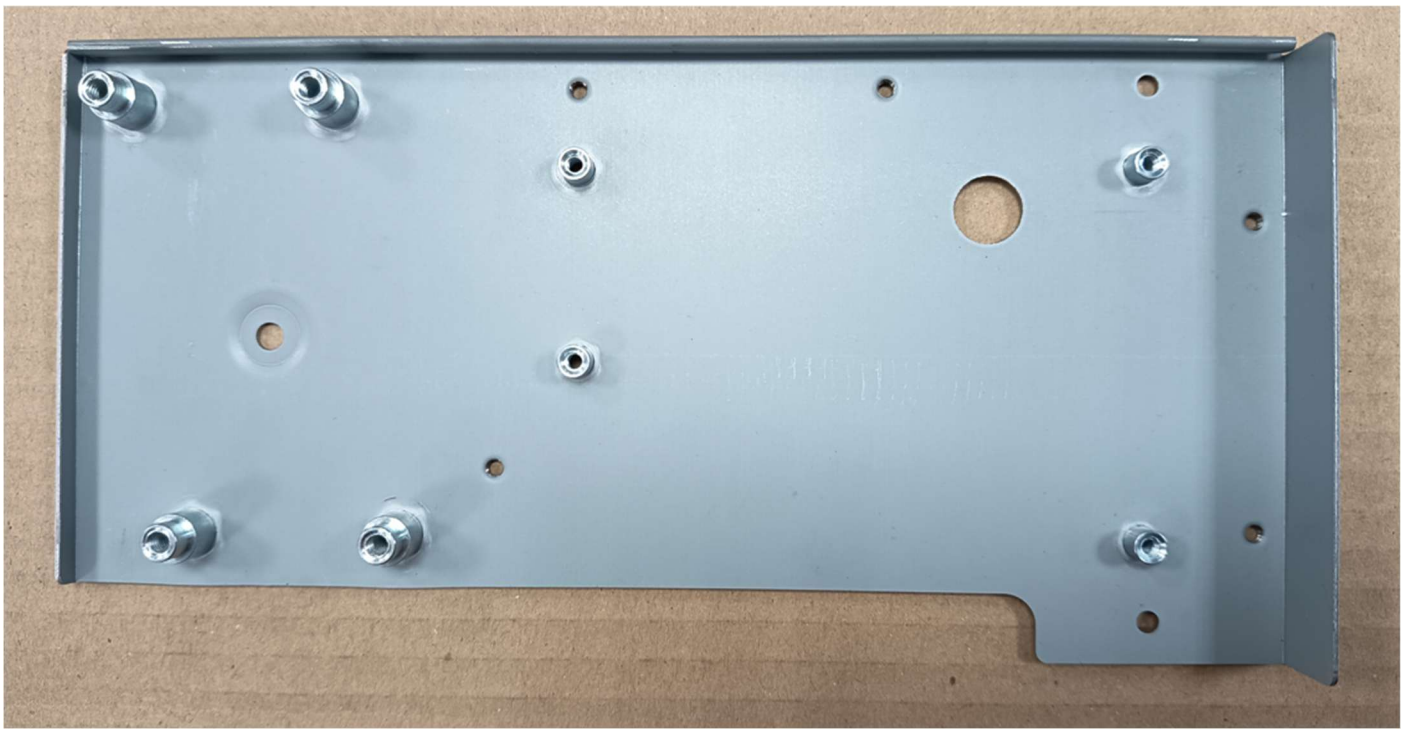
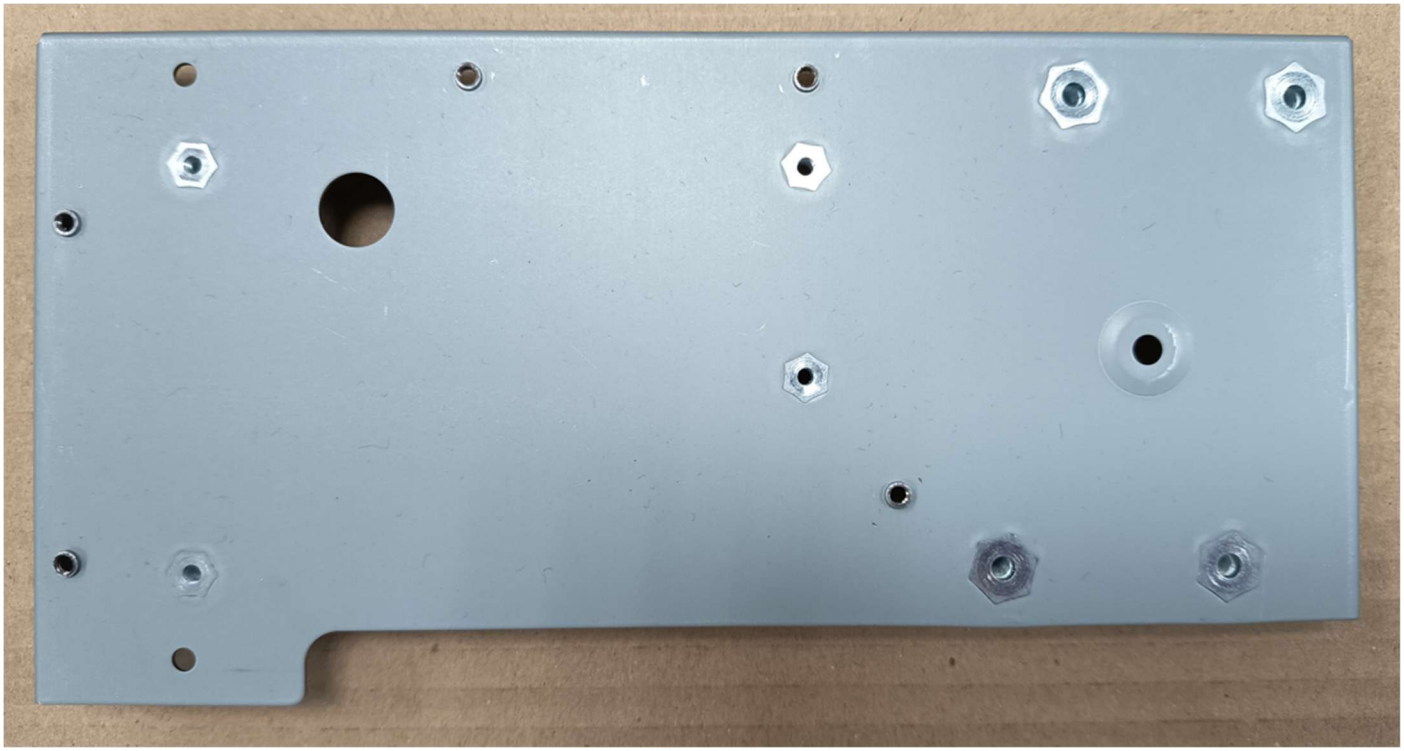






設計驗證
工程課
2025 -12- 10
發行

雄業實業股份有限公司

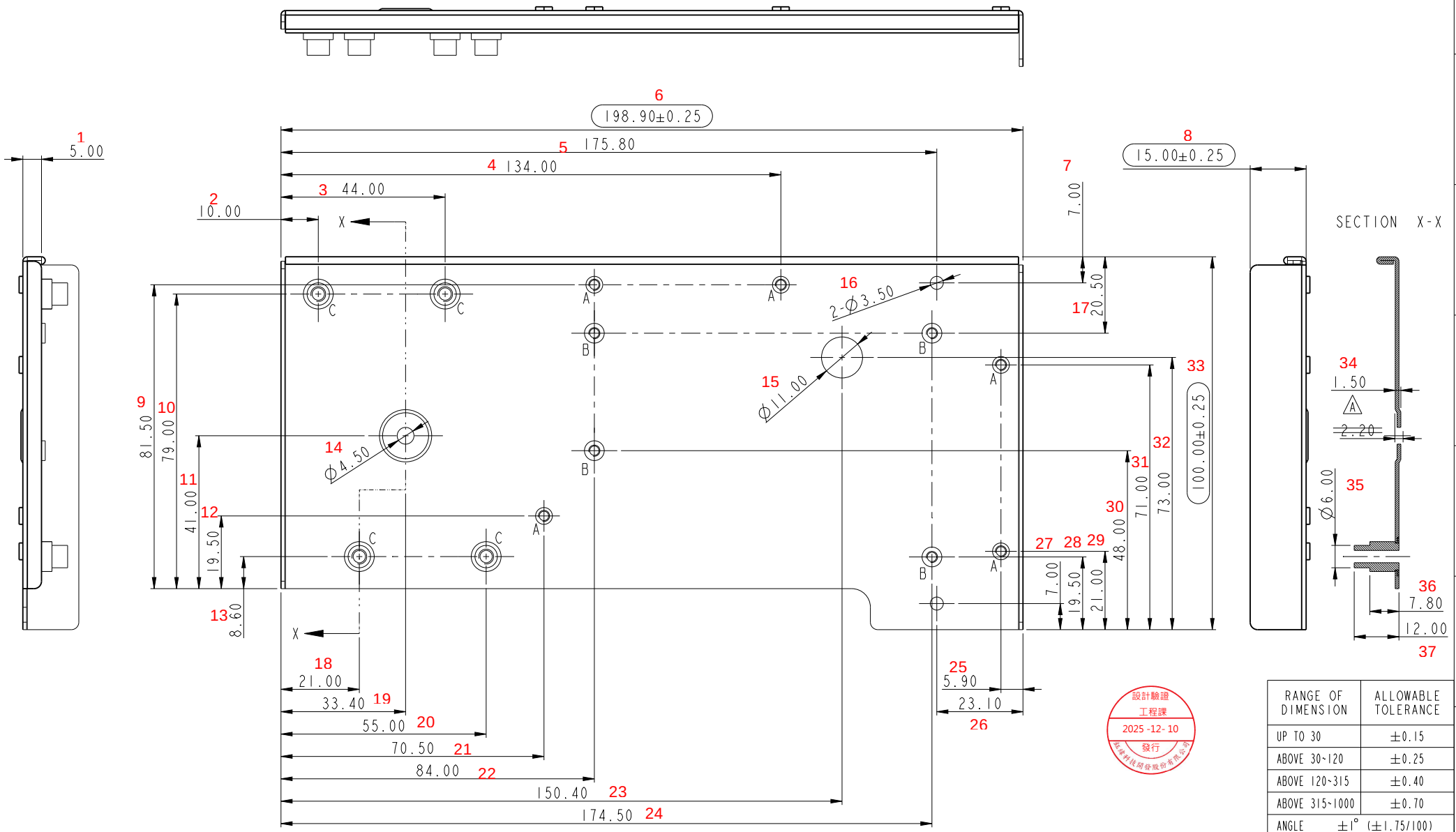
樣 品 承 認 書

雄業實業股份有限公司
TEL:2201-9999
新北市新莊區新樹路288-10號

客　　戶：	鈺緯科技
料　　號：	3MD264ME04A(M2838)
品　　名：	HOLDER BRACKET
日　　期：	114/12/8
送樣數量：	3　　PCS

設計驗證
工程課
2025 -12- 10
發行
鈺緯科技開發股份有限公司

REV.	DATE	DESCRIPTION	BY	APPD
A	2025-10-07	MODIFY PUNCH FROM 2.2 TO 1.5	Laslie	Ferris



RANGE OF DIMENSION	ALLOWABLE TOLERANCE
UP TO 30	±0.15
ABOVE 30~120	±0.25
ABOVE 120~315	±0.40
ABOVE 315~1000	±0.70
ANGLE	±1° (±1.75/100)

設計驗證 工程課 2025-12-10 發行

NOTE:
1. A=M3 Burry Hole (x5).
2. B=M3xH6.0 Stand Off (x4).
3. C=M4xH12.0 Stand Off (x4).
4. Cleaning Oil of all Burry holes.
5. RoHS Compliant.
6. IQC Inspection Document NO.:QWI-014.

THIRD ANGLE PROJECTION	UNITS:mm	SCALE: 1/1	SHEET: 1 OF 1	MODEL NO.:TSD-PT321W-IAN
	MATERIAL: SECC t=1.0		TREATMENT:	
DSGD by Laslie	2017/01/04	PART NAME:	HOLDER BRACKET	
APPD by Ferris	2025/10/07	PART NO.:	3MD264ME04A	VER. A
APPD No.: M2838	FILE NAME: TM5V_HOLDER_PWB_T	DIVA Laboratories, Ltd.		

Test Result	

DIVA FAI DATA SHEET

Part Number :	3MD264ME04A (M2838)	Supplier :	雄業	Date:	2025/12/8
Part Description :	HOLDER BRACKET			Cavity / Tool # :	
Revision :	0	Material Spec:	SECC 1.0t	Inspector:	李宥廷

MOI-Method of inspection abbreviation: HG = Height gauge, MIC = Micrometer, DC = Dial Caliper, P = Protractor, OC = Optical Comparator, CG = Checking Gauge, CMM = Coordinate Measuring Machine, OMM = Optical Coordinate Measuring Machine, HT = Hardness Trester, TG = Thickness Gauge, VIS D

OTHER:

DRAWING SPECIFICATIONS						INSPECTION RESULTS							INSPECTION ANALYSIS					
						Sample Number							% Tolerance		Alert/Rej		Supplier	RD Engineering
ITEM	LOCATION	NOMINAL	+TOL	-TOL	Method	1	2	3	1	2	3	Mean	UPPER	LOWER	HIGH	LOW	Remarks	Disposition
1	B1	**5.00**	0.15	0.15	CMM	**5.040**	**5.000**	**5.020**	***0.040***	***0.000***	***0.020***	***5.020***	**27%**	**0%**				
2	C3	**10.00**	0.15	0.15	CMM	**10.020**	**10.000**	**10.020**	***0.020***	***0.000***	***0.020***	***10.013***	**13%**	**0%**				
3	C4	**44.00**	0.25	0.25	CMM	**44.000**	**44.030**	**44.010**	***0.000***	***0.030***	***0.010***	***44.013***	**12%**	**0%**				
4	B5	**134.00**	0.40	0.40	CMM	**134.000**	**134.020**	**134.000**	***0.000***	***0.020***	***0.000***	***134.007***	**5%**	**0%**				
5	B5	**175.80**	0.40	0.40	CMM	**175.800**	**175.840**	**175.820**	***0.000***	***0.040***	***0.020***	***175.820***	**10%**	**0%**				
6	B6	**198.90**	0.25	0.25	CMM	**199.000**	**199.030**	**199.000**	***0.100***	***0.130***	***0.100***	***199.010***	**52%**	**0%**				
7	C9	**7.00**	0.15	0.15	CMM	**7.100**	**7.080**	**7.100**	***0.100***	***0.080***	***0.100***	***7.093***	**67%**	**0%**	**Alert**			
8	C10	**15.00**	0.25	0.25	CMM	**15.060**	**15.100**	**15.080**	***0.060***	***0.100***	***0.080***	***15.080***	**40%**	**0%**				
9	D2	**81.50**	0.25	0.25	CMM	**81.450**	**81.400**	**81.430**	***-0.050***	***-0.100***	***-0.070***	***81.427***	**0%**	**40%**				
10	D2	**79.00**	0.25	0.25	CMM	**79.030**	**79.000**	**79.030**	***0.030***	***0.000***	***0.030***	***79.020***	**12%**	**0%**				
11	E2	**41.00**	0.25	0.25	CMM	**40.930**	**40.930**	**40.900**	***-0.070***	***-0.070***	***-0.100***	***40.920***	**0%**	**40%**				
12	E3	**19.50**	0.15	0.15	CMM	**19.470**	**19.500**	**19.480**	***-0.030***	***0.000***	***-0.020***	***19.483***	**0%**	**20%**				
13	F3	**8.60**	0.15	0.15	CMM	**8.610**	**8.600**	**8.610**	***0.010***	***0.000***	***0.010***	***8.607***	**7%**	**0%**				
14	E4	**4.50**	0.15	0.15	CMM	**4.520**	**4.500**	**4.520**	***0.020***	***0.000***	***0.020***	***4.513***	**13%**	**0%**				
15	D7	**11.00**	0.15	0.15	CMM	**11.000**	**11.030**	**11.010**	***0.000***	***0.030***	***0.010***	***11.013***	**20%**	**0%**				
16	D8	**3.50**	0.15	0.15	CMM	**3.500**	**3.530**	**3.500**	***0.000***	***0.030***	***0.000***	***3.510***	**20%**	**0%**				
		3.50	0.15	0.15	CMM	**3.530**	**3.500**	**3.500**	***0.030***	***0.000***	***0.000***	***3.510***	**20%**	**0%**				
17	C10	**20.50**	0.15	0.15	CMM	**20.500**	**20.530**	**20.510**	***0.000***	***0.030***	***0.010***	***20.513***	**20%**	**0%**				
18	F3	**21.00**	0.15	0.15	CMM	**21.060**	**21.040**	**21.060**	***0.060***	***0.040***	***0.060***	***21.053***	**40%**	**0%**				
19	G4	**33.40**	0.25	0.25	CMM	**33.400**	**33.420**	**33.400**	***0.000***	***0.020***	***0.000***	***33.407***	**8%**	**0%**				
20	G4	**55.00**	0.25	0.25	CMM	**55.000**	**55.020**	**55.000**	***0.000***	***0.020***	***0.000***	***55.007***	**8%**	**0%**				
21	G4	**70.50**	0.25	0.25	CMM	**70.500**	**70.530**	**70.520**	***0.000***	***0.030***	***0.020***	***70.517***	**12%**	**0%**				
22	G4	**84.00**	0.25	0.25	CMM	**84.000**	**84.010**	**84.000**	***0.000***	***0.010***	***0.000***	***84.003***	**4%**	**0%**				
23	G5	**150.40**	0.40	0.40	CMM	**150.500**	**150.520**	**150.500**	***0.100***	***0.120***	***0.100***	***150.507***	**30%**	**0%**				
24	G6	**174.50**	0.40	0.40	CMM	**174.510**	**174.530**	**174.500**	***0.010***	***0.030***	***0.000***	***174.513***	**8%**	**0%**				
25	F9	**5.90**	0.15	0.15	CMM	**5.900**	**5.920**	**5.900**	***0.000***	***0.020***	***0.000***	***5.907***	**13%**	**0%**				
26	F9	**23.10**	0.15	0.15	CMM	**22.950**	**22.970**	**22.950**	***-0.150***	***-0.130***	***-0.150***	***22.957***	**0%**	**100%**		**Alert**		
27	F9	**7.00**	0.15	0.15	CMM	**6.870**	**6.890**	**6.870**	***-0.130***	***-0.110***	***-0.130***	***6.877***	**0%**	**87%**		**Alert**		

28	E10	**19.50**	0.15	0.15	CMM	**19.370**	**19.400**	**19.380**	***-0.130***	***-0.100***	***-0.120***	***19.383***	**0%**	**87%**		**Alert**		
29	E10	**21.00**	0.15	0.15	CMM	**20.950**	**20.970**	**20.950**	***-0.050***	***-0.030***	***-0.050***	***20.957***	**0%**	**33%**				
30	E10	**48.00**	0.25	0.25	CMM	**47.970**	**47.990**	**47.980**	***-0.030***	***-0.010***	***-0.020***	***47.980***	**0%**	**12%**				
31	E10	**71.00**	0.25	0.25	CMM	**70.950**	**70.950**	**70.980**	***-0.050***	***-0.050***	***-0.020***	***70.960***	**0%**	**20%**				
32	E10	**73.00**	0.25	0.25	CMM	**72.820**	**72.850**	**72.830**	***-0.180***	***-0.150***	***-0.170***	***72.833***	**0%**	**72%**		**Alert**		
33	E11	**100.00**	0.25	0.25	CMM	**100.100**	**100.080**	**100.100**	***0.100***	***0.080***	***0.100***	***100.093***	**40%**	**0%**				
34	D12	**1.50**	0.15	0.15	CMM	**1.530**	**1.500**	**1.470**	***0.030***	***0.000***	***-0.030***	***1.500***	**20%**	**20%**				
35	E12	**6.00**	0.15	0.15	CMM	**6.020**	**6.050**	**6.040**	***0.020***	***0.050***	***0.040***	***6.037***	**33%**	**0%**				
36	F12	**7.80**	0.15	0.15	CMM	**7.800**	**7.800**	**7.830**	***0.000***	***0.000***	***0.030***	***7.810***	**20%**	**0%**				
37	F12	**12.00**	0.15	0.15	CMM	**12.000**	**12.000**	**12.020**	***0.000***	***0.000***	***0.020***	***12.007***	**13%**	**0%**				

Instructions:
1.Inspector mest fillout the yellow area.
2. The table will automatically calculate the data in green area.

測試報告
Test Report

號碼(No.): EKR25701268　　日期(Date): 15-Aug-2025　　

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 RD., 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 the applicant as)：

送樣廠商(Sample Submitted By)	:	中國鋼鐵股份有限公司 (CHINA STEEL CORPORATION)
樣品名稱(Sample Name)	:	電鍍鋅產品(ELECTRO-GALVANIZED PRODUCTS)
樣品型號(Style/Item No.)	:	無鉻耐指紋電鍍鋅鋼捲(ELECTRO-GALVANIZED COILS (COATING AFP)(A2))
收件日(Sample Receiving Date)	:	23-Jul-2025
測試期間(Testing Period)	:	23-Jul-2025 to 15-Aug-2025

測試需求(Test Requested) :　依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

測試結果(Test Results) :　請參閱下一頁 (Please refer to following pages.)

結　論(Conclusion) :　根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)

報告簽署人/張伯睿 博士/部經理
Ray Chang, Ph.D./ Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
化學實驗室-高雄/Chemical Laboratory-Kaohsiung

PIN CODE: A2AE4F49

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測試報告
Test Report

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 RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

測試部位敘述 (Test Part Description)

No.1 : 灰色金屬 (GRAY METAL)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
鎘 (Cd) (Cadmium (Cd))	依據IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(According to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	100
鉛 (Pb) (Lead (Pb))		mg/kg	2	n.d.	1000
汞 (Hg) (Mercury (Hg))	依據IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析。(According to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	1000
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	依據IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。(According to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.	-
一溴聯苯 (Monobromobiphenyl)	自訂方法(文件編號 : TESP-KE-082)參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(In house method (Doc. No. : TESP-KE-082) refer to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.	-
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.	-
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.	-
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.	-
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.	-
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.	-
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.	-
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.	-
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.	-
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.	1000

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測試報告
Test Report

號碼(No.): EKR25701268　　日期(Date): 15-Aug-2025　　

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 RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
一溴聯苯醚 (Monobromodiphenyl ether)	自訂方法(文件編號 : TESP-KE-082)參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(In house method (Doc. No. : TESP-KE-082) refer to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.	-
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.	-
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.	-
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.	-
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.	-
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.	-
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.	-
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.	-
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))	依據IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。(According to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	1000
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	1000

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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 RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

備註(Note)：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出)；小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻。(The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.)
6. 除非另有說明，參照ILAC-G8:09/2019決定規則，採用簡單允收規則之二分法(w=0)進行符合性判定；根據此規則，符合性結果之判定係以測試結果與限值做比較。(Unless otherwise stated , the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)
7. 申請人提交的產品是用於電機電子設備之原物料。(The product from the applicant submitted is a raw material which is used for electric and electronic equipment.)

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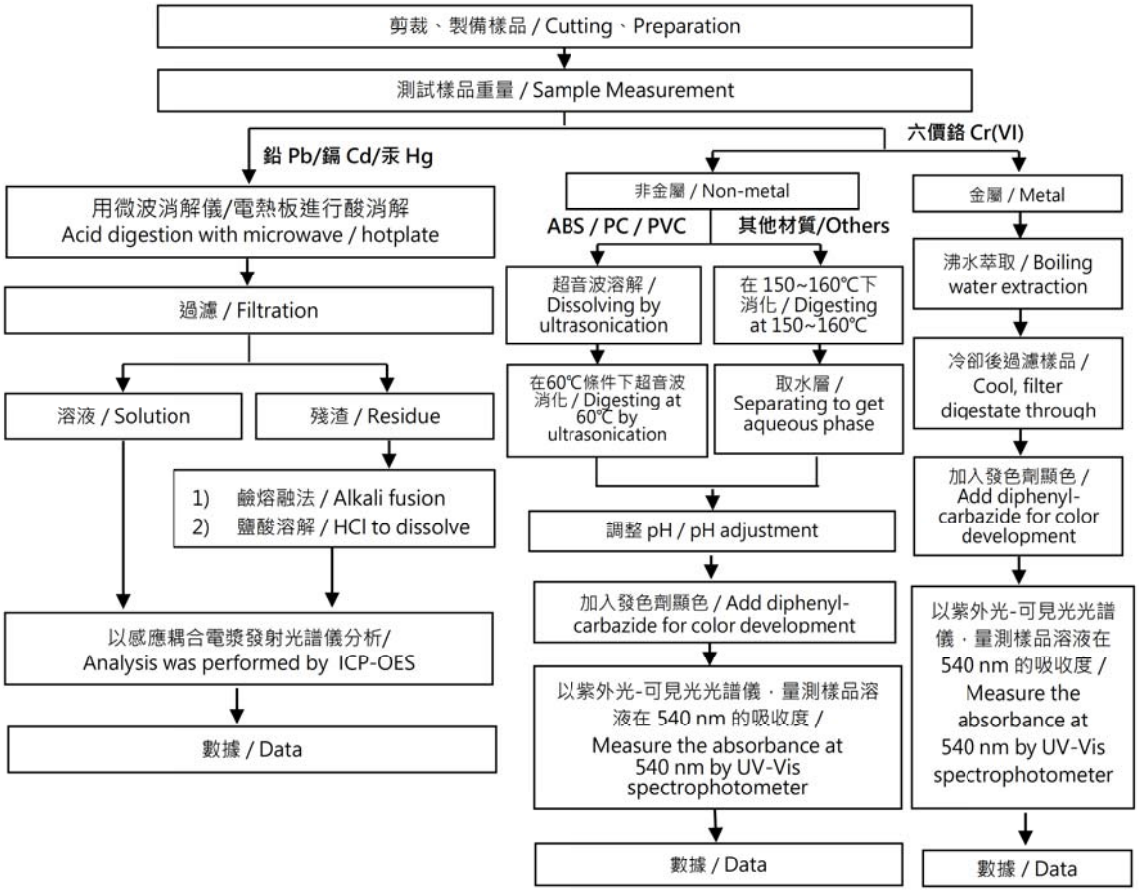
中國鋼鐵股份有限公司 (CHINA STEEL CORPORATION)
高雄市小港區中鋼路1號 (1, CHUNG KANG RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

重金屬流程圖 / Analytical flow chart of Heavy Metal

根據以下的流程圖之條件，樣品已完全溶解。（六價鉻測試方法除外）
These samples were dissolved totally by pre-conditioning method according to below flow chart.
（Cr^{6+} test method excluded）



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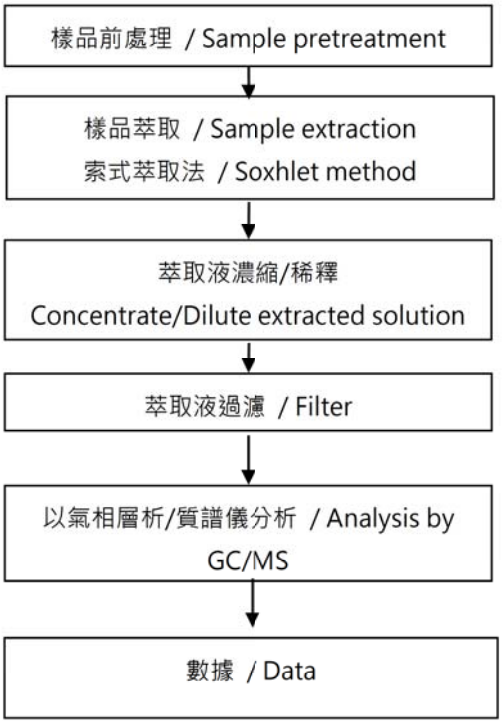
高雄市小港區中鋼路1號 (1, CHUNG KANG RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART



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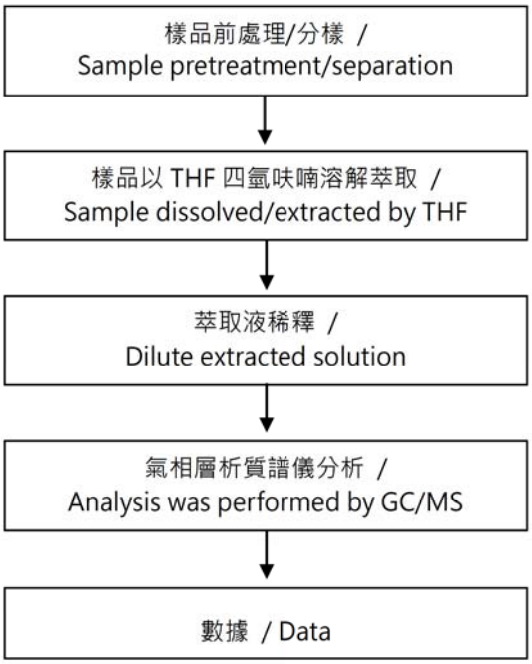
中國鋼鐵股份有限公司 (CHINA STEEL CORPORATION)
高雄市小港區中鋼路1號 (1, CHUNG KANG RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

可塑劑分析流程圖 / Analytical flow chart of phthalate content

【測試方法/Test method: IEC 62321-8】



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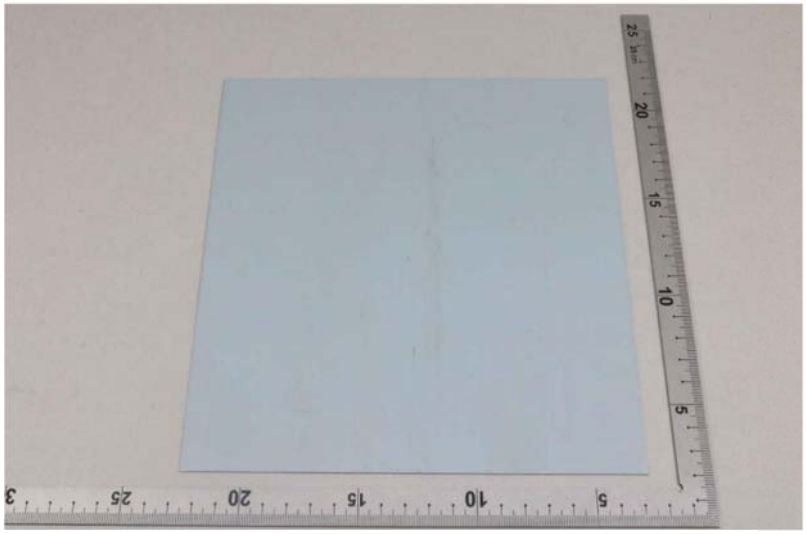
測試報告
Test Report

號碼(No.): EKR25701268　　日期(Date): 15-Aug-2025　　

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 RD., HSIAO KANG, KAOHSIUNG 81233, TAIWAN, REPUBLIC OF CHINA)

*** 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. ***
(The tested sample / part is marked by an arrow if it's shown on the photo.)

EKR25701268



** 報告結尾 (End of Report) **

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CHINA STEEL
中鋼公司

安全資料表(SDS)

一、物品與廠商資料

物品名稱：電鍍鋅鋼片(Electrogalvanized Sheet Coils & Sheets、簡稱 EG)	
物品編號：	
製造商或供應商名稱、地址及電話：中國鋼鐵股份有限公司 812 高雄市小港區中鋼路 1 號	
緊急聯絡電話：(07)802-1111	傳真電話：(07)8051292

二、危害辨識資料

重要物理性及 化學性危害與效應	1.與強酸接觸會起反應產生可燃性氫氣。 2.銲接或加熱會產生氧化鐵燻煙。

三、成分辨識資料

純物質：

物品中（英）文名稱：鋼(STEEL)			
同義名稱：			
化學文摘社登記號碼(CAS.NO.)：			
鐵 Iron	7439-89-6	鋅 Zinc	7440-66-6
碳 Carbon	7440-44-0	矽 Silicon	7440-21-3
錳 Manganese	7439-96-5	Polyurethane	9009-54-5

危害物質成分(成分百分比)：鐵>96%

危害物質成分之中（英）文名稱	濃度或濃度範圍(成分百分比)	危害物質分類及圖式
鐵(Fe)	>96%	
碳(C)	<0.20%	
錳(Mn)	<0.65%	

表面處理(Surface Treatments):本產品表面塗佈之物質包括下列作為防鏽處理之化學物質及特定產品專用金屬成分

鋅(Zinc)	<30g/m^2	
聚氨基甲酸乙脂(Polyurethane)	<900mg/m^2	
矽(Silicon)	80~120mg/m^2	

四、急救措施

不同暴露途徑之急救方法：

- 吸入：本產品形態食入之可能性相當低。
- 眼睛接觸：立即將眼皮撐開，用大量水沖洗 15 分鐘。本產品形態進入眼睛之可能性相當低。
- 皮膚接觸：立即用肥皂和水清洗，本產品形態造成刺激皮膚之可能性相當低。

五、滅火措施

適用滅火劑：使用適合週遭火災之滅火器。

滅火時可能遭遇之特殊危害：1.此物若以大塊型式存在時，不可燃。
2.若以微細粉末存在時，遇火源有引起爆炸的危險。
3.本產品若熔化或燃燒，則會產生毒性或刺激性蒸汽，請使用個人呼吸防護器具。

六、洩漏處理方法

本產品為固體狀不適用。

七、安全處置與儲存方法

CHINA STEEL 中鋼公司

安全資料表(SDS)

一般使用：本產品邊緣為尖銳薄片或捲片，進行各項作業必須使用個人防護器具，所有員工必須接受訓練以安全地進行各項作業。 儲存建議：建議儲存於可防止實體破壞、濕氣、直接日曬之場所。

八、暴露預防措施

重要成分	化學文摘社登記號碼 CAS NO.	重量比例 (%)	暴露限制	
			OSHA PEL	ACGIH TLV
鐵 Iron	7439-89-6	96	未建立	未建立
表面處理(Surface Treatments):本產品表面塗佈之物質包括下列作為防鏽處理之化學物質及特定產品專用金屬成分				
鋅(Zinc)	7440-66-6	<30g/m^2	未建立	未建立
聚氨基甲酸乙脂(Polyurethanes)	9009-54-5	<900mg/m^2	未建立	未建立
矽(Silicon)	7440-21-3	80~120mg/m^2	未建立	未建立

工程控制：

1. 在進行燃燒、銅鑄、切割、研磨、打光、銲接或其他機械加工時，應使用機械通風裝置。
2. 若在進行機械加工時，有產生粉塵或微粒狀物質，建議採用局部及一般通風裝置以預防過多的危害物質暴露。

個人防護設備：

眼睛防護：在進行本產品作業時請穿戴化學安全護目鏡。

呼吸防護：如需符合暴露標準 在進行切割、研磨、打光或銲接等機械加工作業時，應使用自攜式呼吸防護具。

皮膚防護：1.使用皮革或防割傷手套以免被尖銳薄片或捲片割傷。
2.使用防滲透手套以免被皮膚接觸表面油污。

身體防護：1.連身式防護衣。
2.工作鞋。
3.工作區要有淋浴/沖眼設備。

衛生措施： 1.工作場所嚴禁飲用、抽煙或飲食。
2.處理此物後，須徹底洗手。

九、物理及化學性質

物質狀態：固體	形狀：薄片或捲片
顏色：金屬性灰色	氣味：無味
pH 值：不適用	閃火點：不適用
熔解溫度：基本鋼材－2750 ℉	熔解溫度：表面塗裝材－800 ℉
自燃溫度：不適用	爆炸界限：不適用
密度：7.5 － 8.0（水＝1）	溶解度：不溶於水
熔點/凝固點：不適用	揮發速率：不適用
易燃性(固態、氣態）：不適用	分配係數(正辛醇/水）：不適用

十、安定性及反應性

安定性：正常狀況下安定
應避免之狀況：濕氣及腐蝕性物質會氧化本物質
應避免之物質：酸類、A 類及 B 類爆炸物、強性氧化物、腐蝕劑
危害分解物：引燃或熔解可能會產生有產生毒性或刺激性蒸汽

CHINA STEEL
中鋼公司

安全資料表(SDS)

十一、毒性資料

急毒性(Acute Effects)：
鐵(Iron) LD50(測試動物暴露途徑)：30 g/kg(大鼠，吞食)
過度暴露效應(Symptoms of Overexposure)：
鐵(Iron Oxide)：過度暴露或重覆暴露於高濃度狀況下，可能造成塵肺病 pneumoconiosis，吸入氧化鐵可能會刺激眼睛、鼻子及喉嚨。
矽(Silicon)：主要為厭惡性粉塵(Nuisance Dust)，可能會刺激眼睛及黏液薄膜(Mucous Membranes)，本產品型態無此危害。

十二、生態資料

現有資料無影響生態之考量

十三、廢棄處置方法

廢棄處置方法：
1.參考相關法規處理。
2.相關法規可能會限制金屬性廢棄物之處置。
3.建議採取回收金屬性廢棄物。

十四、運送資料

無特殊運送方法

十五、法規資料

適用法規：
職業安全衛生設施規則
危害性化學品標識及通識規則
勞工作業環境空氣中有害物容許濃度標準
事業廢棄物貯存清除處理方法及設施標準

十六、其他資料

參考文獻		
製表者單位	名稱：中國鋼鐵股份有限公司	
	地址/電話：812 高雄市小港區中鋼路 1 號，Tel：(07)8021111	
製 表 人	職稱：工 程 師	姓名（簽章）：曾文宏
製表日期	2025.01.05	
備 註	1. 本安全資料表僅供參考，中國鋼鐵股份有限公司對使用本資料不承擔任何法律責任或提供任何保證。 2. 本安全資料表之提供是基於對本產品的安全及健康危害相關資訊之最佳瞭解，以安全地進行本產品之各項作業及處理。 3. 每位進行本產品之各項作業及處理之人員應先閱讀本安全資料表，瞭解如何進行本產品之各項作業及處理；也應考量本產品與其他製造廠商產品可能之應用。	

有效性不詳
For Question Please
Contact with SGS
www.sgs.com.tw

測試報告
Test Report

巨昌金屬股份有限公司 (GEU CHONE METAL CO., LTD.)
新北市五股區四維路27巷1號 (NO. 1, LANE 27, SIWEI RD., WUGU SHIANG, TAIPEI 248014, TAIWAN)

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 the applicant as)：

送樣廠商(Sample Submitted By)	:	巨昌金屬股份有限公司 (GEU CHONE METAL CO., LTD.)
樣品名稱(Sample Name)	:	FREE CUTTING STEEL (硫磺快削鋼)
樣品型號(Style/Item No.)	:	SAE1215MS

==========

收件日(Sample Receiving Date)	:	02-Jan-2025
測試期間(Testing Period)	:	02-Jan-2025 to 09-Jan-2025

測試需求(Test Requested) : 依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)

Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

CHECK REPORT
PIN CODE: EF64F2FA

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測試報告
Test Report

巨昌金屬股份有限公司 (GEU CHONE METAL CO., LTD.)
新北市五股區四維路27巷1號 (NO. 1, LANE 27, SIWEI RD., WUGU SHIANG, TAIPEI 248014, TAIWAN)

測試部位敘述 (Test Part Description)

No.1 : 銀色金屬 (SILVER COLORED METAL)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.
鉛 (Pb) (Lead (Pb))		mg/kg	2	n.d.
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.

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巨昌金屬股份有限公司 (GEU CHONE METAL CO., LTD.)
新北市五股區四維路27巷1號 (NO. 1, LANE 27, SIWEI RD., WUGU SHIANG, TAIPEI 248014, TAIWAN)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
一溴聯苯醚 (Monobromodiphenyl ether)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	n.d.
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.

備註(Note)：

1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻。(The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.)

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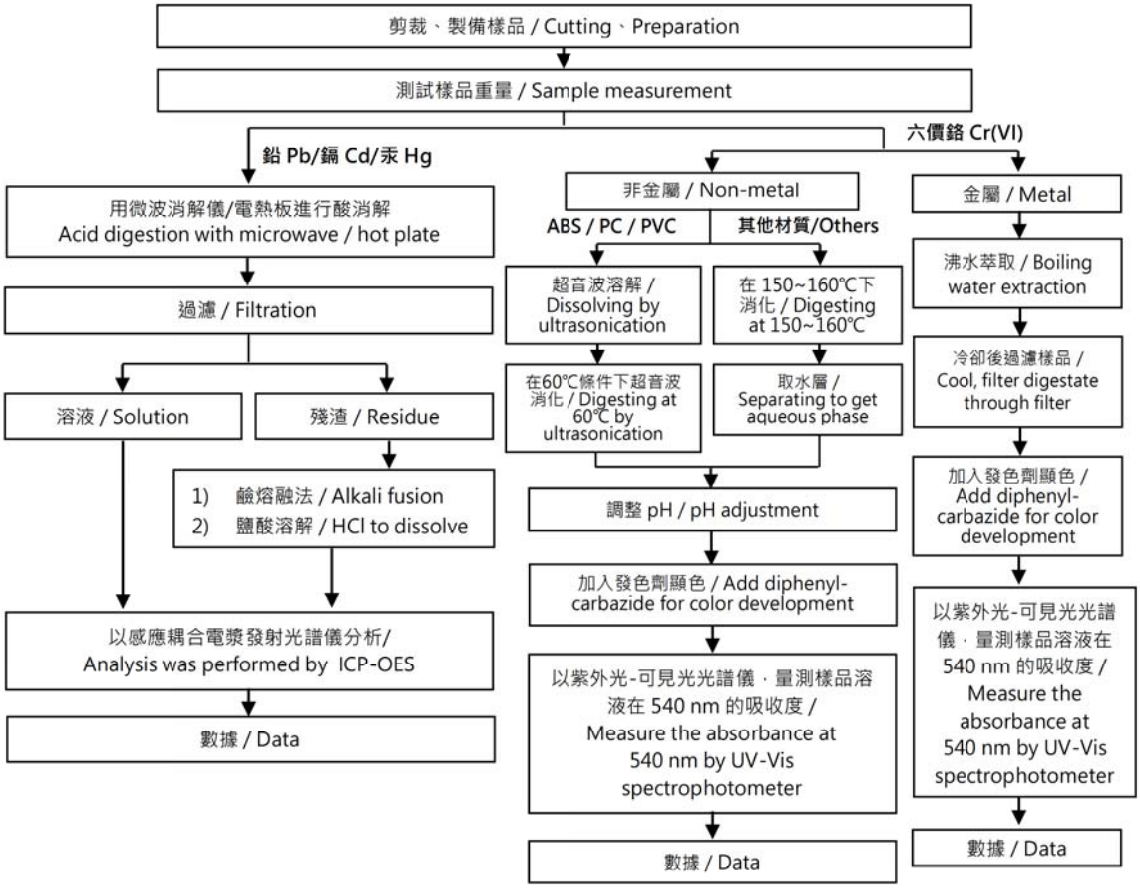
重金屬流程圖 / Analytical flow chart of heavy metal

根據以下的流程圖之條件，樣品已完全溶解。（六價鉻測試方法除外）
These samples were dissolved totally by pre-conditioning method according to below flow chart.
（Cr^{6+} test method excluded）



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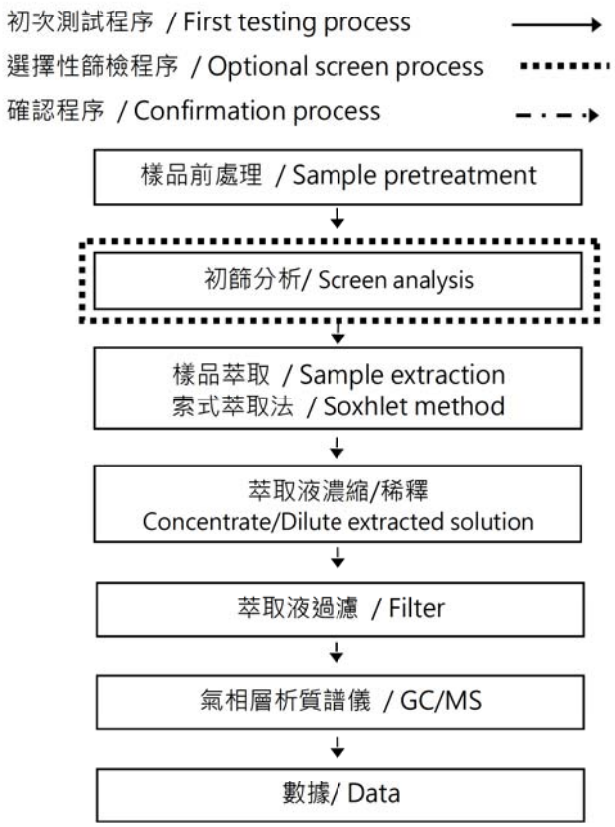
多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



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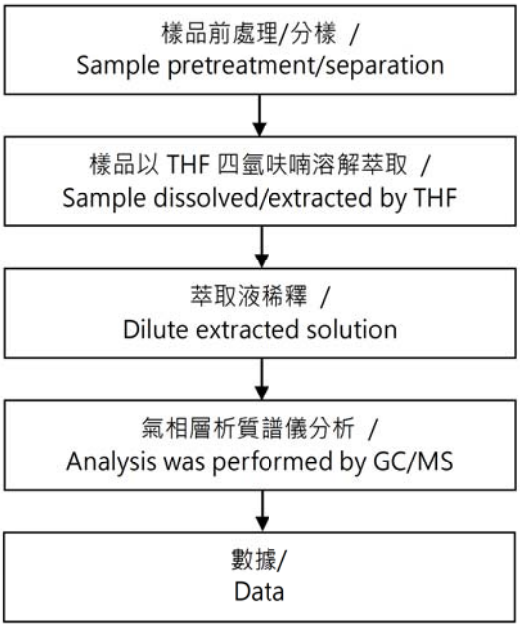
可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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測試報告
Test Report

巨昌金屬股份有限公司 (GEU CHONE METAL CO., LTD.)
新北市五股區四維路27巷1號 (NO. 1, LANE 27, SIWEI RD., WUGU SHIANG, TAIPEI 248014, TAIWAN)

*** 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. ***
(The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR25100127



** 報告結尾 (End of Report) **

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安全資料表

Safety Data Sheet

1. 物品與廠商資料(Product and Company Identification)

物品中(英)文名稱(Product Name)	硫磺快削鋼 Free cutting steel bar
物品編號(Product Code)	SAE 1215MS
化學分類(Chemical Classification)	NA
公司介紹(Manufacture)	主要生產各類原材料 Metal material wholesale
1.1 製造商/供應商名稱(Name)	巨昌金屬股份有限公司 Geu Chone Metal Co., Ltd
1.2 製造商/供應商地址(Address)	台灣新北市五股區四維路 27 巷 1 號 No.1, Lane 27, Siwei Road, Wugu District, New Taipei city, Taiwan
1.3 電 話(Phone Number)	886-2-29814477
1.4 傳 真(Fax Number)	886-2-29854654
1.5 緊急聯絡電話(Emergency Phone No.)	0935-254672
1.6 聯絡人(Contact Person)	趙經理 Manager :Michael Chao

2. 成分辨識資料(Composition, Information on Ingredients)

成 分 名 稱 (Component - Chemical Name & Common Names)	化學文摘社登記號碼 (CAS No.)	濃度或濃度範圍 (成分百分比) Percentage (%)
鐵 (Iron)	07439-89-6	98.240
碳 (Carbon)	07440-44-0	0.050
磷 (Phosphorus)	07723-14-0	0.065
錳 (Manganese)	07439-96-5	1.250
硫 (Sulfur)	07704-34-9	0.375
矽 (Silicon)	07440-21-3	0.020
鎳 (Nickel)	07440-02-0	--
鉻 (Chromium)	07440-47-3	--
鉬 (Mo) Molybdenum	07439-98-7	Trace Element

NOTE: The above listing is a summary of elements used to alloy stainless steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

Tr: Trace element (Si, Cu, Ni, Cr, Mo<0.02%)

Nb. Ti. V <0.008%

Other also conform spec.

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3. 危害辨識資料(Hazard Identification)

最重要危害效應(Most Important Health Hazards and Reactions)	
3.1 緊急概要(Emergency Overview)	NA
3.3 環境影響(Environmental Impact)	NA
3.2 健康危害效應(Health Hazards and Reactions)	Medical conditions generally aggravated by exposure would be dermatitis and pulmonary disease or disorders.
3.4 物理性及化學性危害(Physical and Chemical Hazards)	
3.5 特殊危害(Specific Hazards)	NA
3.6 主要症狀(Cardinal Symptoms)	流血、發炎
3.7 危害物質分類(Hazard Classification)	NA

4. 急救措施(First Aid Measures)

不同暴露途徑之急救方法 (First Aid Measures for Different Kinds of Exposures)	
4.1 眼睛接觸(Eye Contact)	配戴護目鏡 Safety glasses should always be worn when grinding or cutting; face shields should be worn when welding or burning. Immediately flush well with running water to remove particulate; get medical attention.
4.3 吸　　入(Inhalation)	使用呼吸器.Remove to fresh air; if condition continues, consult physician.
4.4 其他 衣物及設備(Other Clothing and Equipment)	遵照規定. As required for protection depending on the operation and safety codes.
4.5 最重要症狀及危害效應概要 (Most Important Symptoms and Hazard Reactions)	金屬不含揮發物質不會被吸入;生產過程不含有害物質故對眼睛組織不傷害;對皮膚無傷害;金屬材料食入後對消化系統有傷害. Steel products in their nature state do not present any contamination or air pollution.
4.6 對急救人員之防護(Protection to First-Aid Attendants)	先使用清水沖洗,使用碘酒消毒,使用繃帶包扎,立即就醫 Immediately flush well with running water to remove particulate; get medical attention.
4.7 對醫師之提示(Suggestions to Doctors)	Steel products in the natural state do not present an inhalation, ingestion, or contact health hazard. However, operations such as welding, burning, sawing, brazing, grinding, and possibly machining, which results in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates may present hazards. The above operations should be performed in well ventilated areas. The major exposure hazard is inhalation.

5. 滅火措施(Fire Fighting Measures)

適用滅火劑(Suitable Extinguishing Media)	無特殊要求 NA
滅火時可能遭遇之特殊危害(Special Hazards in Fire)	無特殊危害 NA
特殊滅火程序(Special Fire-Fighting Procedures)	本產品不易燃燒 NA
火災及爆炸防護 (Fire and Explosion Hazards)	不會自燃或爆炸(Steel products in their nature state do not present a fire or explosion hazard)

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6. 洩漏處理方法(Accidental Release Measures)

個人應注意事項(Personal Precautions)	按一般雜物清理操作方式 Follow normal junk disposal procedures N/A
環境注意事項(Environmental Precautions)	先處理，後廢弃 process it before disposal
清理方法(Methods for Cleaning)	直接在衛生處掩埋 Bury at indicated location

7. 安全處置與儲存方法(Handling and Storage)

處 置 (Handling)/ 儲 存 (Storage)	鋼料應存于通風良好,安全且避免日曬雨淋之場所. Non-ventilated areas when cutting, welding, burning or brazing; avoid generation of airborne dust and fumes.

8. 暴露預防措施(Exposure Controls, Personal Protection)

工程控制(Engineering Measures)	不需要特殊工程控制 NA
控制參數(Control Parameters)	NA
個人防護設備(Personal Protection Equipment)	Use appropriate clothing such as welders aprons & gloves when welding or burning. Check local codes.
衛生措施(Hygiene Measures)	遵從法令規定NIOSH approved dust/mist/fume respirator should be used during welding or burning if OSHA PEL or TLV is exceeded.

9. 物理及化學性質(Physical and Chemical Properties)

成 分(Component)	
9.1 物質型態 (tate of Substance)	固體 Solid
9.2 顏色(Color)	金屬色 Black with Metallic Luster
9.3 外觀(Appearance)	圓柱體 Bar
9.4 氣味(Odor)	無特殊氣味 Odorless
9.5 PH 值(PH Value)	NA
9.6 溶點(Melting Point)	高溫 High Temperature; Approx. 2700 °F
9.7 沸點(Boiling Point)	NA
9.8 閃火點(Flash Point °F/℃)	NA
9.9 分解溫度(Decomposing Temperature)	980°C 高溫以上
9.10 自燃溫度(Auto Igniting Temperature)	不會自燃 NA
9.11 硬度(Hard) HRB	--
9.12 抗拉強度 (Tensile strength)	--
9.13 密度(Density)	--
9.14 擴張極限(Explosion Limits:x/Min)	--
9.15 降伏強度(kg/mm2)Yield Strength	--
9.16 斷面縮率(Reduction of Area)	--
9.17 荷重	--

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10. 安全性及反應性(Stability and Reactivity)

安定性(Stability)	極穩定 Steel products in their nature state is stable.
特殊狀況下可能之危害反應 (Possible Hazard Reaction Under Special Conditions)	NA, Steel products in their nature state is stable.
應避免之狀況(Conditions to Avoid)	需置放通風處.Non-ventilated areas when cutting, welding, burning or brazing; avoid generation of airborne dust and fumes.
應避免之物質(Materials to Avoid)	避開水氣與瓦斯.Stable under normal conditions to use, storage and transport. Reacts with strong acids to form hydrogen gas. At temperatures above melting point, metallic oxide fumes may be liberated.
危害分解物(Hazardous Decomposition Products)	避開金屬氧化物.Metallic oxides.

11. 毒性資料(Toxicological Information)

急毒性(Acute Toxicity)	NA
局部效應(Local Effects)	NA
致敏感性(Sensitivity)	NA
慢毒性或長期毒性(Chronic or Long Term Toxicity)	NA
特殊效應(Special Reactions)	NA

12. 生態資料(Ecological Information)

可能之環境影響／環境流佈 Possible Environmental Impact / Environments Run-offs)	因未含有害物質，故對環境幷無影響.NA-Use good housekeeping practices to prevent accumulation of dust and to keep airborne dust to a minimum. Avoid breathing metal fumes or dust.

13. 廢棄處置方式(Disposal Considerations)

產品廢棄處理(Product Discard Disposal Method)	依環保規定執行 NA-follow federal, state, and local regulations regarding disposal.
包裝廢棄處理(Packing Discard Disposal Method)	依環保規定執行 NA-follow federal, state, and local regulations regarding disposal.

14. 運送資料(Transport Information)

國際運送規定(International Transportation Regulations)	
14.1 美國交通部、49 CFR 分級	NA
14.2 海運，IMDG 分級	NA
14.3 航運，TATA 分級	NA
14.4 聯合國編號(UN Reference No.)	NA
14.5 國內運送規定(Domestic Transportation Regulations)	依運輸安全法規定執行 follow the law.
特殊運送方法及注意事項 (Special Transportation Methods and Precautions)	除了依運輸安法規定執行外，還應注意產品的包裝等。 Appropriate packaging and precautions are needed.

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四 維 廠:24814台灣新北市五股區四維路27巷1號
電話:(02)2981-4477
傳真:(02)2985-4654
东 莞 厂:广东省东莞市茶山镇刘黄第三工业区第1栋
电话:(0769)8920-0988
传真:(0769)8641-0966
昆 山 厂:江苏省昆山市张浦镇博伟路150号
电话:(0512)5712-1388 / 5712-1399
传真:(0512)5712-1389

15. 法規資料(Regulatory Information)

適用法規(Applicable Regulation)	環保廢弃物處理法規.Recyclable junk disposal act
Occupational Exposure Limits:	Chromium and Nickel have been identified by the international Agency for Research on Cancer(IARC) and the National Toxicology Program (NTP) as potential carcinogens.

16. 其他資料(Other Information)

參考文獻(Reference Document)	環境資源不使用證明書 MSDS
製表單位(Department)	巨昌金屬股份有限公司 Geu Chone Metal Co.,Ltd
製造商及供應商地址(Address)	台灣新北市五股區四維路27巷1號 No.1,Lane 27,Siwei Road, Wugu District, New Taipei city, Taiwan
電郵(E-mail)	janicehung@junchuan.com.tw
網址(Homepage)	http://www.junchuan.com.tw
製 表 者(Made By)	洪玉貞 Janice Hung
製表日期(Data Prepared)	12 January, 2023

備註(REMARK):

產品安全檢測報告是提供使用者關於危險有害化學物質確保安全使用之參考資料,經詳細瞭解本身責任後,對應相關必要適切之處置進而活用之,此份資料並不適用做為安全保證使用.

Product safety test report is to provide the user with regard to hazardous chemicals to ensure the safe use of reference data, detailed information on responsibilities, corresponding necessary appropriate disposal and use. this data does not apply as a security guarantee.

測試報告
Test Report

號碼(No.): ETR25801053　　日期(Date): 14-Aug-2025　　

亞億精密有限公司
新北市三重區中正北路530巷43號1樓

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 the applicant as)：

送樣廠商(Sample Submitted By)　：　亞億精密有限公司
樣品名稱(Sample Name)　：　鉚釘鍍鋅

==========

收件日(Sample Receiving Date)　：　07-Aug-2025
測試期間(Testing Period)　：　07-Aug-2025 to 14-Aug-2025

測試需求(Test Requested)　：
(1) 依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)
(2) 依據客戶指定，測試鹵素-氟、氯、溴、碘。 (As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the submitted sample.)

測試結果(Test Results)　：　請參閱下一頁 (Please refer to following pages.)

結　論(Conclusion)　：
(1) 根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)

Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

CHECK REPORT
PIN CODE: 1F593478

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測試報告
Test Report

亞億精密有限公司
新北市三重區中正北路530巷43號1樓

測試部位敘述 (Test Part Description)

No.1 : 銀色金屬 (SILVER COLORED METAL)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	100
鉛 (Pb) (Lead (Pb))		mg/kg	2	n.d.	1000
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	1000
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.	-
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.	-
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.	-
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.	-
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.	-
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.	-
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.	-
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.	-
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.	-
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.	-
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.	1000

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
一溴聯苯醚 (Monobromodiphenyl ether)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.	-
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.	-
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.	-
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.	-
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.	-
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.	-
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.	-
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.	-
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	1000
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	1000
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	-
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	-
溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	-
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.	-

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備註(Note)：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出)；小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻。(The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.)
6. 除非另有說明，參照ILAC-G8:09/2019決定規則，採用簡單允收規則之二分法(w=0)進行符合性判定；根據此規則，符合性結果之判定係以測試結果與限值做比較。(Unless otherwise stated , the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)

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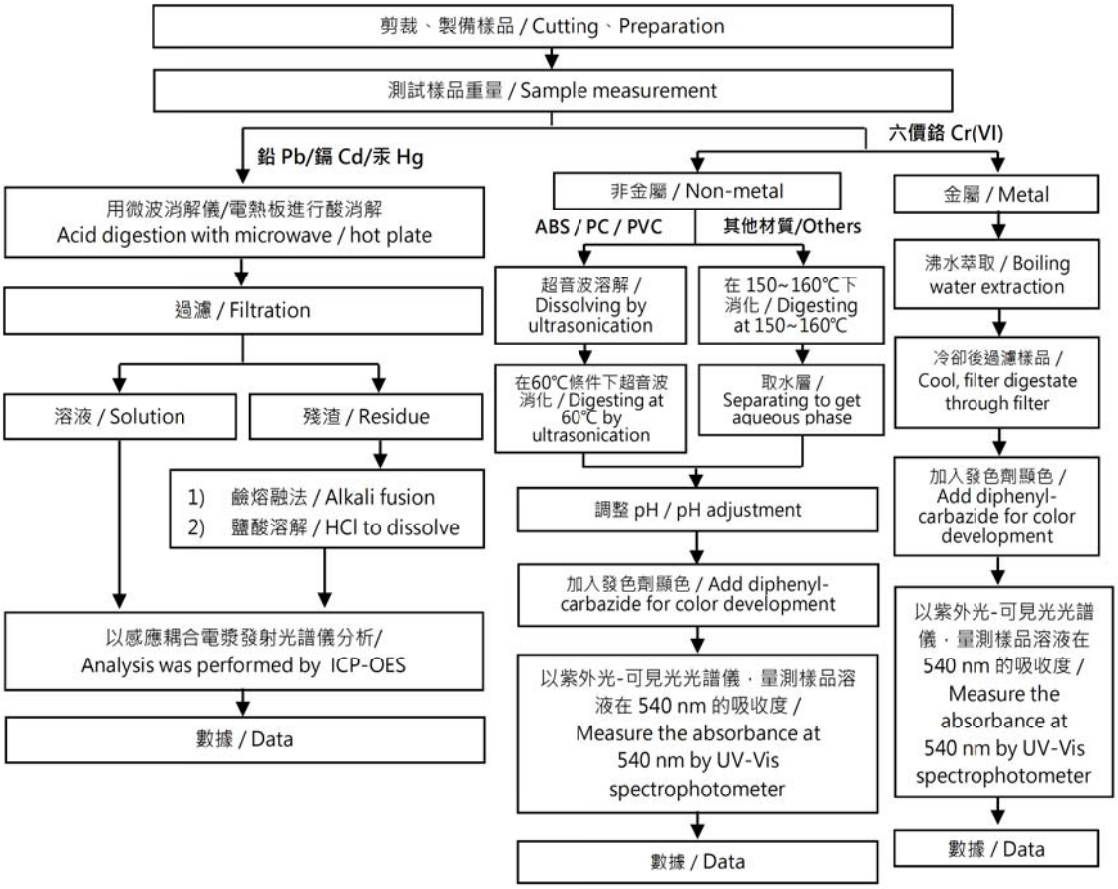
重金屬流程圖 / Analytical flow chart of heavy metal

根據以下的流程圖之條件，樣品已完全溶解。（六價鉻測試方法除外）

These samples were dissolved totally by pre-conditioning method according to below flow chart.
（Cr^{6+} test method excluded）



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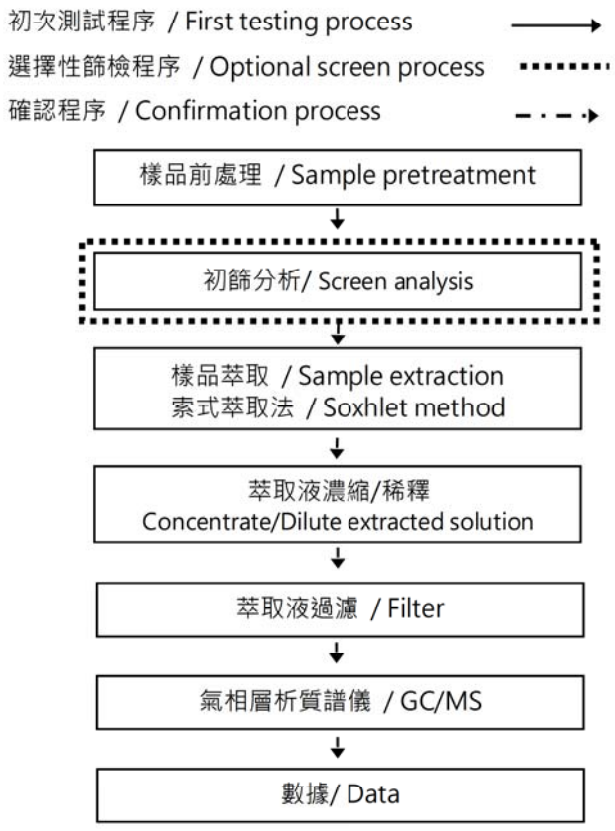
多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



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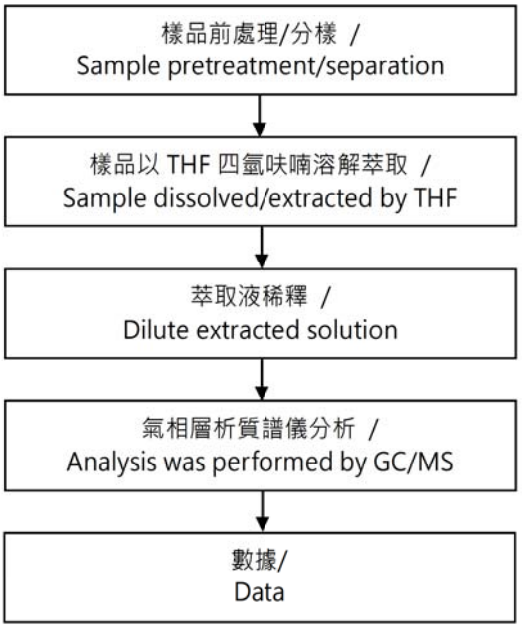
可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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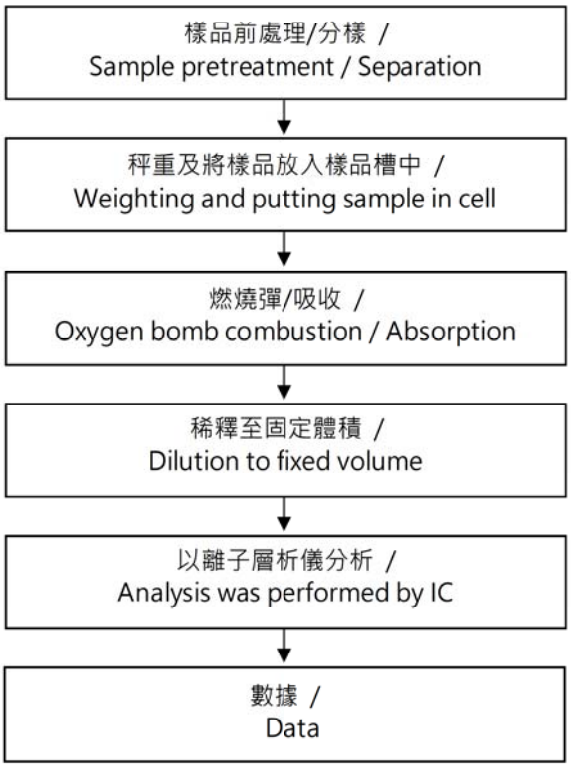
鹵素分析流程圖 / Analytical flow chart - Halogen



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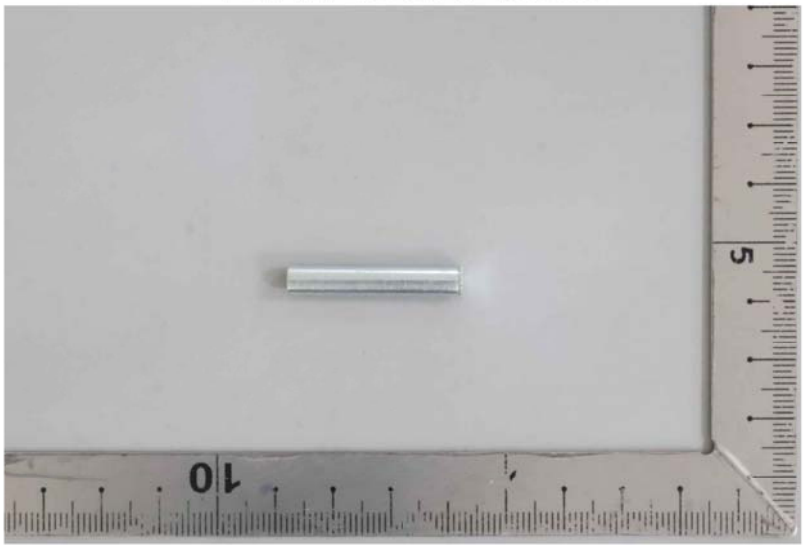
* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. *
(The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR25801053



** 報告結尾 (End of Report) **

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安全資料表

一、化學品與廠商資料

化學品名稱：三價鉻藍鋅鈍化劑
製造者、輸入者或供應者名稱、地址及電話： 柯一有限公司/桃園市桃園區大連二街 4 號/033163256
緊急聯絡電話/傳真電話： 03-3163256/033163257

二、危害辨識資料

化學品危害分類：急毒性物質第 5 級（吞食）、急毒性物質第 2 級（吸入）
標示內容： 象徵符號：  警示語：危險 危害警告訊息： 吞食可能有害 吸入致命 可能腐蝕金屬 造成嚴重皮膚灼傷和眼睛損傷 造成嚴重眼睛損傷 危害防範措施： 置容器於通風良好的地方 若與眼睛接觸，立刻以大量的水洗滌後洽詢醫療 戴眼罩／護面罩
其它危害：-

三、成分辨識資料

混合物：		
危害成分之中英文名稱	濃度或濃度範圍(成分百分比)	CAS No.
硝酸鉻	55	13548-38-4
硫酸鉻	3	10101-53-8
硝酸鈉	2	7631-99-4
水	40	-

四、急救措施

不同暴露途徑之急救方法： 吸入之後：1.若吸入大量氣體，應立即將患者移到新鮮空氣處。2.若呼吸停止，施行人工呼吸或給予氧氣。3.讓患者保持溫暖並休息。4.儘速就醫。 皮膚接觸：1.如液體或固體接觸到皮膚，立即以水和肥皂清洗患部。2.若是經由衣服滲入皮膚立刻脫去衣服再以水和肥皂清洗。.如清洗後刺激感仍在則立即就醫。 眼睛接觸：1.立刻以大量水清洗眼睛。2.立即就醫。3.操作此化學藥品不可帶隱形眼鏡。 吞食　　：1.若患者清醒，立刻給予大量的水喝。2.喝水後，協助患者以手指深入喉嚨內催吐。3.患者意識不清醒時，不可進行催吐。4.立即就醫。

五、滅火措施

適用滅火劑：水、泡沫、乾粉化學滅火劑、二氧化碳滅火器、砂土等。
滅火方法：周圍發生火災時，應訊續切斷燃燒源，在可能的情況下，快速將容器轉移到安全的場所，滅火作業要確保安全的巨哩，滅火人員必須穿著防護服，配戴防護面具。
滅火時可能遭遇之特殊危害：自身不可燃，廢水應收集處理，不可污染環境。

六、洩漏處理方法

洩漏之緊急應變：集中洩漏物於適當容器
清理方法：用水沖洗乾淨即可，在送到特定的廢水廠處理

七、安全處置與儲存方法

操作： 注意不要鍵入到眼睛、皮膚上，在使用後要充分洗淨手、臉等部位，操作場所應準備充分的清水，以供緊急使用，保持工作場所通風良好。
儲存：容器應放在沒有陽光直接照射的冷、暗場所，通風要好，不可在高溫處儲存，避免與強酸強鹼、氧化性質和還原物質接觸或放在同一場所，不能過度堆積，建議最多放兩層，以免包裝破裂或損壞，蓋緊容器，避免長期儲存，保管場所應準備充分的清水，以供緊急使用。

八、暴露預防措施

個人防護設備： • 眼部防護：防粉塵防建安全護目鏡、面罩(至少 8 吋) • 呼吸防護：全面行高效率濾材呼吸防護具、全面式自給空氣呼吸器 • 手部防護：橡膠防滲手套 • 其他：耐化學膠鞋、防護衣
通風設備：作業現場要進行充分換氣，保持通風良好。
個人衛生： 1.工作場所嚴禁抽菸或飲食 2.工程後應將手、臉、皮膚等徹底清洗乾淨

九、物理及化學性質

外觀（物質狀態、顏色等）: 墨綠色液體	氣味： 稍帶焦糖味
pH 值： 1.7 - 2.1	沸點/沸點範圍： 103℃
分解溫度：	揮發速率: 無資料
溶水度：易溶於水	比重： 1.30 - 1.35（25℃）(水=1)
蒸氣壓： 極低 mmHg	蒸氣密度： —（空氣=1）
閃火點: 測試方法（開杯或閉杯）: —	爆炸界限：—

十、安定性及反應性

安定性： 安定
應避免之狀況： 潮濕、曝曬
應避免之物質： 易燃化學品
危害分解物：二氧化氮

十一、毒性資料

容許濃度				
時量平均容許濃度 TWA	短時間時量平均容許濃度 STEL	最高容許濃度 CHIKNG	LD(測試動物、吸收途徑)	LC(測試動物、吸收途徑)
- mg/m^3	- mg/m^3	- mg/m^3	- mg/m^3	- mg/L

十二、生態資料

可能之環境影響/環境流佈： 1. 土壤中可能影響職務正常生長，改變吸收功能 2. 在正常情況下，不游離分解

十三、廢棄處置方法

廢棄處置方法： 1. 廢水按照危險廢物的處理標準進行處理，達到標準後排放，原液或濃廢液可經稀釋後用鹼中

和，也可委託專業處理單位處理。 2. 必須妥善處理，不得隨意拋棄，防止污染環境。

十四、運送資料

國際運送規定：無特殊列管制法規、依循國際航運法規
聯合國編號(UN NO.)： 3098
包裝類別：3
海洋污染物（是／否)：否
國內運送規定： 依一般正常法規行駛

十五、法規資料

適用法規： 1.勞工安全衛生設施規則　　2.危險物與有害物標示及通識規則 3.道路交通安全規則　　4.事業廢棄物貯存清除處理方法及設施標準 5.勞工作業環境空氣中有害物容許濃度標準

十六、其他資料

參考文獻	1. RTECS 資料庫，TOMES CPS 光碟，Vol.71，2007 2. ChemWatch 資料庫，2007-1 3. OHS MSDS 資料庫，2007 4. HSDB 資料庫，TOMES CPS 光碟，Vol.71，2007	
製表單位	名稱：柯一有限公司	
	地址/電話：桃園市桃園區大連二街 4 號 033163256	
製 表 人	職稱： 業務	姓名(簽章)： 藍誼倢
製表日期	2023/10/20	
備 註	上述資料中符號”－”代表目前查無相關資料，而符號”／”代表此欄位對該物質並不適用。	

限用物質聲明書

致 鈺緯科技開發股份有限公司：

本公司 雄業實業股份有限公司 為鈺緯科技開發股份有限公司（下稱「貴公司」）之供應商，願就下列事項予以擔保：

一、 本公司擔保供應予 貴公司之材料、零件、模組或相關配件（下稱「產品」），其所含之限用物質項目及含量,均符合本聲明書**附件一**所列標準(下稱「標準」)(該標準含符合RoHS指令(2011/65/EU)(2015/863)及REACH指令(1907/2006/EC)之高度關切物質 (Substance of Very High Concern, SVHC)要求)。

二、 本公司擔保供應予 貴公司經具公信力之第三驗證單位驗證且符合標準，並以檢附之檢驗報告為憑。本公司亦擔保該檢驗報告無任何虛偽不實之情事。

三、 本公司擔保供應予 貴公司之產品，除符合本聲明書之標準外，其特性、規格及功能，不低於 貴公司所要求之特性、規格及功能。

四、 本公司承諾，自 貴公司提出要求之十個工作日內，本公司將就產品中含有禁用物質，提供相關資訊及說明。

五、 本公司擔保如因違反本聲明書擔保事項，致 貴公司受有損害或損失，願承擔一切直接或間接法律責任，並賠償 貴公司所受之損害及損失。

雄業實業股份有限公司
立聲明書人
李政育
_____
地址

新北市新莊區新樹路 288-10 號
統一編號

36051869
代表人

李政育
公司大小章

中 華 民 國 114 年 8 月 5 日

附件一

✧ 禁止使用物質清單

中文名稱	英文名稱
短鏈型氯代烷烴(SCCP)	Short Chain Chlorinated Paraffins
多氯聯苯	Polychlorinated Biphenyls(PCBs)
多氯化奈	Polychloronaphalenes (CL>=3)
氧化三丁錫	Tributyl Tin Oxide(TBTO)
三丁錫類及三苯錫類	Tributyl Tins&Triphenyl Tins
石綿	Asbestos
偶氮化合物	Azo compounds
氟氯碳化物	Ozone Depleting Substances(CFCs, HCFCs, HBFCs, CBNTETs)
放射性物質	Radioactive Substances
甲醛	Formaldehyde

✧ 限制含量物質清單(RoHS Directive)

中文名稱	英文名稱	限制含量（ppm）
鎘及其化合物	Cadmium/ Cadmium Compounds	**100**
六價鉻及其化合物	Hexavalent Chromium/ Hexavalent Chromium Compounds	**1000**
鉛及其化合物	Lead/ Lead Compounds	**1000**
汞及其化合物	Mercury/ Mercury Compounds	**1000**
聚溴聯苯	Polybrominated Biphenyls (PBBs)	**1000**
聚溴聯苯醚	Polybrominated Diphenylethers (PBDEs)	**1000**
十溴聯苯醚	Deca BDE	**1000**
鄰苯二甲酸二(2-乙基己基)酯	Bis(2-ethylhexyl) phthalate (DEHP)	**1000**
鄰苯二甲酸丁酯苯甲酯	Butyl benzyl phthalate (BBP)	**1000**
鄰苯二甲酸二丁酯	Dibutyl phthalate (DBP)	**1000**
鄰苯二甲酸二異丁酯	Diisobutyl phthalate (DIBP)	**1000**

✧ 限制含量物質清單 (EU Packing Directive 94/62/EC)

中文名稱	英文名稱	限制含量（ppm）
鎘及其化合物	Cadmium/ Cadmium Compounds	**總量 100**
六價鉻及其化合物	Hexavalent Chromium/ Hexavalent Chromium Compounds	
鉛及其化合物	Lead/ Lead Compounds	
汞及其化合物	Mercury/ Mercury Compounds	

✧ 限制含量物質清單 (EU Battery Directive -2006/66/EEC and 91/157/EEC)

中文名稱	英文名稱	限制含量（ppm）
鎘及其化合物	Cadmium/ Cadmium Compounds	**20** (攜帶式電池或蓄電池)
汞及其化合物	Mercury/ Mercury Compounds	**5** (電池或蓄電池) **20000** (鈕扣電池)

✧ 符合 REACH 指令之附錄十七內容及 SVHC 高關切物質清單最新版之要求

REACH 公佈指令網址:

https://echa.europa.eu/candidate-list-table