

紡織實驗室

Test Report 報告號碼: TX31555 /2018 /SP 日期: 2018 年 03 月 26 日 頁數: 五 之 一 頁

建躍實業股份有限公司
台北市基隆路一段 8 號 11 樓

我們依照客戶的要求, 根據申請者送交的樣品進行測試如下:

樣品敘述 : 一塊 H011 針織布

顏色 : 紅色

成份 : 84% Nylon 16% Spandex

申請者 : 建躍實業股份有限公司

收件日期 : 2018 年 03 月 20 日

測試週期 : 2018 年 03 月 20 日至 2018 年 03 月 26 日

測試要求 : 依申請者要求檢測中華民國國家標準 CNS 15290 L1036 紡織品安全規範(一般要求)部份項目:
1) 游離甲醛
2) 有機錫
3) 壬基酚
4) 壬基酚聚氧乙烯醚
5) 偶氮

測試結果 : 請見下面說明

台灣檢驗科技股份有限公司



朱培馨
測試專員

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測試結果:

1. 游離甲醛

測試方法: 依中華民國國家標準 CNS 15580-1 L3271-1 紡織品 - 甲醛檢測法
- 第一部 游離及水解甲醛 (水萃取法) - 使用紫外光/可見光分光光譜儀分析。

| | 測試結果 (ppm) | CNS 15290 上限值 (ppm) | | | |
|------|---------------|------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 游離甲醛 | 未偵測出 | 20 | 75 | 300 | 300 |

備註: ppm = 百萬分之一
方法偵測極限值是 16 ppm

2. 有機錫

測試方法: 依中華民國國家標準 CNS 15290 L1036 5.4 節, 環境保護署環境檢測方法毒性化學物質有機錫化合物於紡織品之檢測方法 NIEA T504.30B, 使用氣相層析儀火焰光度偵測器 (GC/FPD) 分析

| | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) | | | |
|------------|-----------------|--------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 三丁基錫 (TBT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |
| 三苯基錫 (TPT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |

備註: 方法偵測極限是 0.1 毫克/公斤

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測試結果:

3. 壬基酚 (NP)

測試方法: 參考中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|-----|---------------|--------------------------|
| 壬基酚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 10 毫克/公斤

4. 壬基酚聚氧乙烯醚 (NPEO)

測試方法: 依中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------|---------------|--------------------------|
| 壬基酚聚氧乙烯醚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 1 毫克/公斤

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測試結果:

5. 偶氮

測試方法: 依中華民國國家標準 CNS 15205-2 L3267-2 使用氣相層析/質譜儀分析。
對 4-胺基偶氮苯的檢測 - 參照德國食品及日用品法第 64 節 § 64 LFGB, BVL, B 82.02.9: 2008, 使用氣相層析/質譜儀分析

| | 化學摘要號碼 | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------------------------|----------|-----------------|-----------------------------|
| 對-胺基聯苯 | 92-67-1 | 未偵測出 | 30 |
| 聯苯胺 | 92-87-5 | 未偵測出 | 30 |
| 對-氯-鄰-甲苯胺 | 95-69-2 | 未偵測出 | 30 |
| 2-萘胺 | 91-59-8 | 未偵測出 | 30 |
| 鄰-胺基偶氮甲苯 | 97-56-3 | 未偵測出 | 30 |
| 5-硝基-鄰-甲苯胺 | 99-55-8 | 未偵測出 | 30 |
| 4-氯苯胺 | 106-47-8 | 未偵測出 | 30 |
| 2,4-二氨基苯甲醚 | 615-05-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯甲烷 | 101-77-9 | 未偵測出 | 30 |
| 二氯聯苯胺 | 91-94-1 | 未偵測出 | 30 |
| 二甲氧基聯苯胺 | 119-90-4 | 未偵測出 | 30 |
| 鄰-二甲基聯苯胺 | 119-93-7 | 未偵測出 | 30 |
| 3,3'-二甲基 4,4'-二胺基-二 苯甲烷 | 838-88-0 | 未偵測出 | 30 |
| 2-甲氧基-5-甲基苯胺 | 120-71-8 | 未偵測出 | 30 |
| 4,4'-亞甲雙(2-氯苯胺) | 101-14-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯醚 | 101-80-4 | 未偵測出 | 30 |
| 4,4'-硫二苯胺 | 139-65-1 | 未偵測出 | 30 |
| 鄰-甲苯胺 | 95-53-4 | 未偵測出 | 30 |
| 2,4-甲苯二胺 | 95-80-7 | 未偵測出 | 30 |
| 2,4,5-三甲苯胺 | 137-17-7 | 未偵測出 | 30 |
| 鄰-甲氧基苯胺 | 90-04-0 | 未偵測出 | 30 |
| 4-胺基偶氮苯 | 60-09-3 | 未偵測出 | 30 |

備註: 方法偵測極限: 5 毫克/公斤

當對-胺基聯苯(化學摘要號碼 92-67-1), 2-萘胺 (化學摘要號碼 91-59-8)或 2,4-二氨基苯甲醚(化學摘要號碼 615-05-4)被檢測出時, 如果沒有額外的資料說明(例如著色劑的化學結構等), 被檢測樣品是否使用上述限制偶氮著色劑則無法確認。

當試樣有 PU 材質時, 例如 PU 泡棉、塗層或印花, 無法排除部份苯胺如 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9)跟 2,4-甲苯二胺(簡稱 TDA, 化學摘要號碼 95-80-7), 可能源於 PU 釋出而不是限制偶氮著色劑

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萬一當顏料印花製程中一定要使 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9), 那麼 4,4'-二胺基二苯甲烷就可能不是源於限制偶氮著色劑而是來自於化學固色劑

中華民國標準 CNS 15205-2 L3267-2, 會進一步將 4-胺基偶氮苯繼續還原, 而產出非限制物質的苯胺和 1,4-苯二胺。因此, 當苯胺及/或 1,4-苯二胺的分析結果是有數值時, 則依照標準 德國食品及日用品法 § 64 LFGB, BVL, B 82.02.9 對 4-胺基偶氮苯的有無再次確認。

苯胺跟 1,4-苯二胺是 4-胺基偶氮苯的還原產物, 如果兩者或是任一種的檢測結果是“未偵測出”(濃度小於 5 毫克/公斤), 4-胺基偶氮苯(CAS no: 60-09-3)的測試結果, 則以“未偵測出”表示(也就是濃度小於 5 毫克/公斤)。偶氮的上限值, 說明於中華民國國家標準 CNS 15205-2L3267-2 附錄 C, (該上限值同歐盟標準 2002/61/EC)

以上測試由 SGS 相關實驗室執行

*** 結 束 ***

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建躍實業股份有限公司
台北市基隆路一段 8 號 11 樓

我們依照客戶的要求, 根據申請者送交的樣品進行測試如下:

樣品敘述 : 一塊 H011 針織布

顏色 : 黃色

成份 : 84% Nylon 16% Spandex

申請者 : 建躍實業股份有限公司

收件日期 : 2018 年 03 月 20 日

測試週期 : 2018 年 03 月 20 日至 2018 年 03 月 26 日

測試要求 : 依申請者要求檢測中華民國國家標準 CNS 15290 L1036 紡織品安全規範(一般要求)部份項目:
1) 游離甲醛
2) 有機錫
3) 壬基酚
4) 壬基酚聚氧乙烯醚
5) 偶氮

測試結果 : 請見下面說明

台灣檢驗科技股份有限公司



朱培馨
測試專員

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測試結果:

1. 游離甲醛

測試方法: 依中華民國國家標準 CNS 15580-1 L3271-1 紡織品 - 甲醛檢測法
- 第一部 游離及水解甲醛 (水萃取法) - 使用紫外光/可見光分光光譜儀分析。

| | 測試結果 (ppm) | CNS 15290 上限值 (ppm) | | | |
|------|---------------|------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 游離甲醛 | 未偵測出 | 20 | 75 | 300 | 300 |

備註: ppm = 百萬分之一
方法偵測極限值是 16 ppm

2. 有機錫

測試方法: 依中華民國國家標準 CNS 15290 L1036 5.4 節, 環境保護署環境檢測方法毒性化學物質有機錫化合物於紡織品之檢測方法 NIEA T504.30B, 使用氣相層析儀火焰光度偵測器 (GC/FPD) 分析

| | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) | | | |
|------------|-----------------|--------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 三丁基錫 (TBT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |
| 三苯基錫 (TPT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |

備註: 方法偵測極限是 0.1 毫克/公斤

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測試結果:

3. 壬基酚 (NP)

測試方法: 參考中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|-----|---------------|--------------------------|
| 壬基酚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 10 毫克/公斤

4. 壬基酚聚氧乙烯醚 (NPEO)

測試方法: 依中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------|---------------|--------------------------|
| 壬基酚聚氧乙烯醚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 1 毫克/公斤

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測試結果:

5. 偶氮

測試方法: 依中華民國國家標準 CNS 15205-2 L3267-2 使用氣相層析/質譜儀分析。
對 4-胺基偶氮苯的檢測 - 參照德國食品及日用品法第 64 節 § 64 LFGB, BVL, B 82.02.9: 2008, 使用氣相層析/質譜儀分析

| | 化學摘要號碼 | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------------------------|----------|-----------------|-----------------------------|
| 對-胺基聯苯 | 92-67-1 | 未偵測出 | 30 |
| 聯苯胺 | 92-87-5 | 未偵測出 | 30 |
| 對-氯-鄰-甲苯胺 | 95-69-2 | 未偵測出 | 30 |
| 2-萘胺 | 91-59-8 | 未偵測出 | 30 |
| 鄰-胺基偶氮甲苯 | 97-56-3 | 未偵測出 | 30 |
| 5-硝基-鄰-甲苯胺 | 99-55-8 | 未偵測出 | 30 |
| 4-氯苯胺 | 106-47-8 | 未偵測出 | 30 |
| 2,4-二氨基苯甲醚 | 615-05-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯甲烷 | 101-77-9 | 未偵測出 | 30 |
| 二氯聯苯胺 | 91-94-1 | 未偵測出 | 30 |
| 二甲氧基聯苯胺 | 119-90-4 | 未偵測出 | 30 |
| 鄰-二甲基聯苯胺 | 119-93-7 | 未偵測出 | 30 |
| 3,3'-二甲基 4,4'-二胺基-二 苯甲烷 | 838-88-0 | 未偵測出 | 30 |
| 2-甲氧基-5-甲基苯胺 | 120-71-8 | 未偵測出 | 30 |
| 4,4'-亞甲雙(2-氯苯胺) | 101-14-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯醚 | 101-80-4 | 未偵測出 | 30 |
| 4,4'-硫二苯胺 | 139-65-1 | 未偵測出 | 30 |
| 鄰-甲苯胺 | 95-53-4 | 未偵測出 | 30 |
| 2,4-甲苯二胺 | 95-80-7 | 未偵測出 | 30 |
| 2,4,5-三甲苯胺 | 137-17-7 | 未偵測出 | 30 |
| 鄰-甲氧基苯胺 | 90-04-0 | 未偵測出 | 30 |
| 4-胺基偶氮苯 | 60-09-3 | 未偵測出 | 30 |

備註: 方法偵測極限: 5 毫克/公斤

當對-胺基聯苯(化學摘要號碼 92-67-1), 2-萘胺 (化學摘要號碼 91-59-8)或 2,4-二氨基苯甲醚(化學摘要號碼 615-05-4)被檢測出時, 如果沒有額外的資料說明(例如著色劑的化學結構等), 被檢測樣品是否使用上述限制偶氮著色劑則無法確認。

當試樣有 PU 材質時, 例如 PU 泡棉、塗層或印花, 無法排除部份苯胺如 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9)跟 2,4-甲苯二胺(簡稱 TDA, 化學摘要號碼 95-80-7), 可能源於 PU 釋出而不是限制偶氮著色劑

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紡織實驗室

Test Report 報告號碼: TX31556 /2018 /SP 日期: 2018 年 03 月 26 日頁數: 五 之 五 頁

萬一當顏料印花製程中一定要使 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9), 那麼 4,4'-二胺基二苯甲烷就可能不是源於限制偶氮著色劑而是來自於化學固色劑

中華民國標準 CNS 15205-2 L3267-2, 會進一步將 4-胺基偶氮苯繼續還原, 而產出非限制物質的苯胺和 1,4-苯二胺。因此, 當苯胺及/或 1,4-苯二胺的分析結果是有數值時, 則依照標準 德國食品及日用品法 § 64 LFGB, BVL, B 82.02.9 對 4-胺基偶氮苯的有無再次確認。

苯胺跟 1,4-苯二胺是 4-胺基偶氮苯的還原產物, 如果兩者或是任一種的檢測結果是“未偵測出”(濃度小於 5 毫克/公斤), 4-胺基偶氮苯(CAS no: 60-09-3)的測試結果, 則以“未偵測出”表示(也就是濃度小於 5 毫克/公斤)。偶氮的上限值, 說明於中華民國國家標準 CNS 15205-2L3267-2 附錄 C, (該上限值同歐盟標準 2002/61/EC)

以上測試由 SGS 相關實驗室執行

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紡織實驗室

Test Report 報告號碼: TX31557 /2018 /SP 日期: 2018 年 03 月 26 日 頁數: 五 之 一 頁

建躍實業股份有限公司
台北市基隆路一段 8 號 11 樓

我們依照客戶的要求, 根據申請者送交的樣品進行測試如下:

樣品敘述 : 一塊 H011 針織布

顏色 : 藍色

成份 : 84% Nylon 16% Spandex

申請者 : 建躍實業股份有限公司

收件日期 : 2018 年 03 月 20 日

測試週期 : 2018 年 03 月 20 日至 2018 年 03 月 26 日

測試要求 : 依申請者要求檢測中華民國國家標準 CNS 15290 L1036 紡織品安全規範(一般要求)部份項目:
1) 游離甲醛
2) 有機錫
3) 壬基酚
4) 壬基酚聚氧乙烯醚
5) 偶氮

測試結果 : 請見下面說明

台灣檢驗科技股份有限公司



朱培馨
測試專員

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紡織實驗室

Test Report 報告號碼: TX31557 /2018 /SP 日期: 2018 年 03 月 26 日頁數: 五 之 二 頁

測試結果:

1. 游離甲醛

測試方法: 依中華民國國家標準 CNS 15580-1 L3271-1 紡織品 - 甲醛檢測法
- 第一部 游離及水解甲醛 (水萃取法) - 使用紫外光/可見光分光光譜儀分析。

| | 測試結果 (ppm) | CNS 15290 上限值 (ppm) | | | |
|------|---------------|------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 游離甲醛 | 未偵測出 | 20 | 75 | 300 | 300 |

備註: ppm = 百萬分之一
方法偵測極限是 16 ppm

2. 有機錫

測試方法: 依中華民國國家標準 CNS 15290 L1036 5.4 節, 環境保護署環境檢測方法毒性化學物質有機錫化合物於紡織品之檢測方法 NIEA T504.30B, 使用氣相層析儀火焰光度偵測器 (GC/FPD) 分析

| | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) | | | |
|------------|-----------------|--------------------------|-------------|--------------|----------|
| | | 嬰幼兒 | 與皮膚 直接接觸 | 與皮膚 非直接接觸 | 室內 裝飾 |
| 三丁基錫 (TBT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |
| 三苯基錫 (TPT) | 未偵測出 | 0.5 | 1.0 | 1.0 | 1.0 |

備註: 方法偵測極限是 0.1 毫克/公斤

紡織實驗室

Test Report 報告號碼: TX31557 /2018 /SP 日期: 2018 年 03 月 26 日頁數: 五 之 三 頁

測試結果:

3. 壬基酚 (NP)

測試方法: 參考中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|-----|---------------|--------------------------|
| 壬基酚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 10 毫克/公斤

4. 壬基酚聚氧乙烯醚 (NPEO)

測試方法: 依中華民國標準 CNS 15579 L3270. 使用液相層析/質譜儀分析.

| | 結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------|---------------|--------------------------|
| 壬基酚聚氧乙烯醚 | 未偵測出 | 1000 |

備註: 方法偵測極限是 1 毫克/公斤

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紡織實驗室

Test Report 報告號碼: TX31557 /2018 /SP 日期: 2018 年 03 月 26 日頁數: 五 之 四 頁

測試結果:

5. 偶氮

測試方法: 依中華民國國家標準 CNS 15205-2 L3267-2 使用氣相層析/質譜儀分析。
對 4-胺基偶氮苯的檢測 - 參照德國食品及日用品法第 64 節 § 64 LFGB, BVL, B 82.02.9: 2008, 使用氣相層析/質譜儀分析

| | 化學摘要號碼 | 測試結果 (毫克/公斤) | CNS 15290 上限值 (毫克/公斤) |
|----------------------------|----------|-----------------|-----------------------------|
| 對-胺基聯苯 | 92-67-1 | 未偵測出 | 30 |
| 聯苯胺 | 92-87-5 | 未偵測出 | 30 |
| 對-氯-鄰-甲苯胺 | 95-69-2 | 未偵測出 | 30 |
| 2-萘胺 | 91-59-8 | 未偵測出 | 30 |
| 鄰-胺基偶氮甲苯 | 97-56-3 | 未偵測出 | 30 |
| 5-硝基-鄰-甲苯胺 | 99-55-8 | 未偵測出 | 30 |
| 4-氯苯胺 | 106-47-8 | 未偵測出 | 30 |
| 2,4-二氨基苯甲醚 | 615-05-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯甲烷 | 101-77-9 | 未偵測出 | 30 |
| 二氯聯苯胺 | 91-94-1 | 未偵測出 | 30 |
| 二甲氧基聯苯胺 | 119-90-4 | 未偵測出 | 30 |
| 鄰-二甲基聯苯胺 | 119-93-7 | 未偵測出 | 30 |
| 3,3'-二甲基 4,4'-二胺基-二 苯甲烷 | 838-88-0 | 未偵測出 | 30 |
| 2-甲氧基-5-甲基苯胺 | 120-71-8 | 未偵測出 | 30 |
| 4,4'-亞甲雙(2-氯苯胺) | 101-14-4 | 未偵測出 | 30 |
| 4,4'-二胺基二苯醚 | 101-80-4 | 未偵測出 | 30 |
| 4,4'-硫二苯胺 | 139-65-1 | 未偵測出 | 30 |
| 鄰-甲苯胺 | 95-53-4 | 未偵測出 | 30 |
| 2,4-甲苯二胺 | 95-80-7 | 未偵測出 | 30 |
| 2,4,5-三甲苯胺 | 137-17-7 | 未偵測出 | 30 |
| 鄰-甲氧基苯胺 | 90-04-0 | 未偵測出 | 30 |
| 4-胺基偶氮苯 | 60-09-3 | 未偵測出 | 30 |

備註: 方法偵測極限: 5 毫克/公斤

當對-胺基聯苯(化學摘要號碼 92-67-1), 2-萘胺 (化學摘要號碼 91-59-8)或 2,4-二氨基苯甲醚(化學摘要號碼 615-05-4)被檢測出時, 如果沒有額外的資料說明(例如著色劑的化學結構等), 被檢測樣品是否使用上述限制偶氮著色劑則無法確認。

當試樣有 PU 材質時, 例如 PU 泡棉、塗層或印花, 無法排除部份苯胺如 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9)跟 2,4-甲苯二胺(簡稱 TDA, 化學摘要號碼 95-80-7), 可能源於 PU 釋出而不是限制偶氮著色劑

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紡織實驗室

Test Report 報告號碼: TX31557 /2018 /SP 日期: 2018 年 03 月 26 日頁數: 五 之 五 頁

萬一當顏料印花製程中一定要使 4,4'-二胺基二苯甲烷(簡稱 MDA, 化學摘要號碼 101-77-9), 那麼 4,4'-二胺基二苯甲烷就可能不是源於限制偶氮著色劑而是來自於化學固色劑

中華民國標準 CNS 15205-2 L3267-2, 會進一步將 4-胺基偶氮苯繼續還原, 而產出非限制物質的苯胺和 1,4-苯二胺。因此, 當苯胺及/或 1,4-苯二胺的分析結果是有數值時, 則依照標準 德國食品及日用品法 § 64 LFGB, BVL, B 82.02.9 對 4-胺基偶氮苯的有無再次確認。

苯胺跟 1,4-苯二胺是 4-胺基偶氮苯的還原產物, 如果兩者或是任一種的檢測結果是“未偵測出”(濃度小於 5 毫克/公斤), 4-胺基偶氮苯(CAS no: 60-09-3)的測試結果, 則以“未偵測出”表示(也就是濃度小於 5 毫克/公斤)。偶氮的上限值, 說明於中華民國國家標準 CNS 15205-2L3267-2 附錄 C, (該上限值同歐盟標準 2002/61/EC)

以上測試由 SGS 相關實驗室執行

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