



**BUREAU  
VERITAS**

CONSUMER PRODUCTS SERVICES DIVISION

## TOA-UNION PAINT (THAILAND) CO.,LTD.

**Technical Report:** (2217)313-0002  
Date Received: November 9, 2017

Initial Report Date: November 17, 2017  
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TOA-UNION PAINT (THAILAND) CO.,LTD.  
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10130 THAILAND

|                      |                                     |                         |   |
|----------------------|-------------------------------------|-------------------------|---|
| Sample Description:  | UNION WOOD STAIN                    |                         |   |
| Manufacturer:        | TOA-UNION PAINT (THAILAND) CO.,LTD. | PO No.:                 | / |
| Buyer:               | /                                   | Style:                  | / |
| Country of Origin:   | THAILAND                            | Country of Destination: | / |
| Color:               | /                                   | SKU No.:                | / |
| Test Requested:      | HEAVY METALS CONTENT                | Material:               | / |
| Previous Report No.: | /                                   | Lot No.:                | / |

### **EXECUTIVE SUMMARY:**

The sample(s) is rated as **PASS** for the following requirement(s):

- Heavy Metals Content

## BUREAU VERITAS CONSUMER PRODUCT SERVICES (THAILAND) LTD.

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**TEST RESULT**

**Migration of Certain Elements - European Standard EN 71 Part 3: 2013 with Amendment A2: 2017**

**Test Method** : European Standard EN 71 Part 3: 2013 with Amendment A2: 2017, Section 8.

| Test Item(s)  | Item / Component Description(s) | Location(s)                                       | Style(s)      |
|---|---------------------------------|---|---------------|
| I001  | Paint                           | -   | -             |
| <b>See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table</b> | Type I                          | Dry, brittle, powder-like or pliable toy material |               |
|   | Type II                         | <b>Liquid or sticky toy material</b>              |               |
|   | Type III                        | Scraped-off toy material                          |               |
| -   | <b>Unit</b>                     | <b>Req.</b>                                       | <b>Result</b> |
| <b>Test Item(s)</b>   | -                               | -   | I001          |
| <b>Type</b>   | -                               | II  | II            |
| <b>Parameter</b>  | -                               | -   | -             |
| Aluminium (Al)  | mg/kg                           | 1406  | ND            |
| Antimony (Sb)   | mg/kg                           | 11.3  | ND            |
| Arsenic (As)  | mg/kg                           | 0.9   | ND            |
| Barium (Ba)   | mg/kg                           | 375   | ND            |
| Boron (B)   | mg/kg                           | 300   | ND            |
| Cadmium (Cd)  | mg/kg                           | 0.3   | ND            |
| Chromium III (Cr III)   | mg/kg                           | 9.4   | ND            |
| Chromium VI (Cr VI)   | mg/kg                           | 0.005   | ND            |
| Cobalt (Co)   | mg/kg                           | 2.6   | ND            |
| Copper (Cu)   | mg/kg                           | 156   | ND            |
| Lead (Pb)   | mg/kg                           | 3.4   | ND            |
| Manganese (Mn)  | mg/kg                           | 300   | ND            |
| Mercury (Hg)  | mg/kg                           | 1.9   | ND            |
| Nickel (Ni)   | mg/kg                           | 18.8  | ND            |
| Selenium (Se)   | mg/kg                           | 9.4   | ND            |
| Strontium (Sr)  | mg/kg                           | 1125  | ND            |
| Tin (Sn)  | mg/kg                           | 3750  | ND            |
| Organic tin   | mg/kg                           | 0.2   | ND            |
| Zinc (Zn)   | mg/kg                           | 938   | ND            |
| <b>Conclusion</b>   | -                               | -   | <b>PASS</b>   |

Note / Key :

“<” = Less than  
 NR = Not requested  
 mg/kg = milligram(s) per kilogram = ppm = part(s) per million  
 [ ] = Detection Limit by In House Ion Chromatography Analysis  
 { } = Detection Limit by test method with reference to EN 71 Part 3: 2013 with Amendment A2: 2017, Annex G

ND = Not detected  
 INCON. = Inconclusive  
 Req. = Requirement



Detection Limit ( mg/kg ) :

For Type I - Al : 562.5 ; Sb : 4.5 ; As : 0.38 ; Ba : 150 ; B : 120 ; Cd : 0.13 ; Cr III : 3.75 ; Cr VI : 0.005 [ 0.002 ] ;  
Co : 1.05 ; Cu : 62.25 ; Pb : 0.2 ; Mn : 120 ; Hg : 0.75 ; Ni : 7.5 ; Se : 3.75 ; Sr : 450 ; Sn : 1 500 ;  
Organic tin : 0.09 { 0.04 } ; Zn : 375

**For Type II - Al : 140.6 ; Sb : 1.13 ; As : 0.09 ; Ba : 37.5 ; B : 30 ; Cd : 0.03 ; Cr III : 0.94 ;  
Cr VI : 0.005 [ 0.002 ] ; Co : 0.26 ; Cu : 15.6 ; Pb : 0.05 ; Mn : 30 ; Hg : 0.19 ; Ni : 1.88 ;  
Se : 0.94 ; Sr : 112.5 ; Sn : 375 ; Organic tin : 0.02 { 0.04 } ; Zn : 93.8**

For Type III - Al : 7 000 ; Sb : 56 ; As : 4.7 ; Ba : 1 875 ; B : 1 500 ; Cd : 1.7 ; Cr III : 46 ; Cr VI : 0.02 [ 0.002 ] ;  
Co : 13 ; Cu : 770 ; Pb : 2.3 ; Mn : 1 500 ; Hg : 9.4 ; Ni : 93 ; Se : 46 ; Sr : 5 600 ; Sn : 18 000 ;  
Organic tin : 1.2 { 2 } ; Zn : 4 600

Remark :

- 1 Results of Cr III and Cr VI were reported as sum of soluble chromium content unless further verified.
- 2 Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.
- 3 Soluble Tin Content is determined first. Confirmation of Organic Tin Content will be performed when concentration of soluble tin content exceed "Threshold of Tin Content in Terms of Tributyltin" under its corresponding category. "Threshold of Tin Content in Terms of Tributyltin" is as table below:

| Category | Threshold of Tin Concentration in Terms of Tributyltin (ppm) |
|----------|--|
| I        | 0.00737  |
| II       | 0.00163  |
| III      | 0.0983   |

SUBMITTED SAMPLE IMAGE

