The following samples was/were submitted and identified by/on behalf of the applicant as:

Sample Submitted By : HENKEL CORPORATION
Sample Description : GAP FILLER 3500S35
Style/Item No. : BERGQUIST GAP FILLER TGF 3600 (FORMERLY KNOWN AS GAP FILLER 3500S35)
Buyer/Order No. : RICK STEWART
Other Info. : REPORT PER HENKEL MSA 2018 CONTRACT
Sample Receiving Date : 2018/06/14
Testing Period : 2018/06/14 TO 2018/06/22

Test Requested : 
(1) 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) Please refer to next pages for the other item(s).

Test Result(s) : Please refer to following pages.

Conclusion : 
(1) 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 and amending Directive (EU) 2015/863.
### Test Result(s)

**PART NAME No.1 :** BLUE LUMP

<table>
<thead>
<tr>
<th>Test Item(s)</th>
<th>Unit</th>
<th>MDL</th>
<th>Result No.1</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>100</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>Hexavalent Chromium Cr(VI)</td>
<td>mg/kg</td>
<td>8</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Sum of PBBs</strong></td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monobromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>Dibromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Tribromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Tetrabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Pentabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Hexabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Heptabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Octabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Nonabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Decabromobiphenyl</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td><strong>Sum of PBDEs</strong></td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monobromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>Dibromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Tribromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Tetrabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Pentabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Hexabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Heptabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Octabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Nonabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>Decabromodiphenyl ether</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
</tbody>
</table>

With reference to IEC 62321-5 (2013) and performed by ICP-AES.

With reference to IEC 62321-4 (2013) and performed by ICP-AES.

With reference to IEC 62321-7-2 (2017) and performed by UV-VIS.

With reference to IEC 62321-6 (2015) and performed by GC/MS.
### Test Item(s) | Unit | Method | MDL | Result No.1 | Limit
--- | --- | --- | --- | --- | ---
BBP (Butyl Benzy phthalate) (CAS No.: 85-68-7) | mg/kg | | 50 | n.d. | 1000
DBP (Dibutyl phthalate) (CAS No.: 84-74-2) | mg/kg | | 50 | n.d. | 1000
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7) | mg/kg | | 50 | n.d. | 1000
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5) | mg/kg | With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS. | 50 | n.d. | 1000
DiDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1) | mg/kg | | 50 | n.d. | -
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0) | mg/kg | | 50 | n.d. | -
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0) | mg/kg | | 50 | n.d. | -
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)) | mg/kg | With reference to IEC 62321 (2008). Analysis was performed by GC/MS. | 5 | n.d. | -
Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide) | mg/kg | With reference to US EPA 3550C (2007). Analysis was performed by LC/MS. | 10 | n.d. | -
PFOA (CAS No.: 335-67-1) | mg/kg | | 10 | n.d. | -
Antimony (Sb) | mg/kg | With reference to US EPA 3052 (1996). Analysis was performed by ICP-AES. | 2 | n.d. | -
Phosphorus (P) | mg/kg | | 2 | n.d. | -

**Note:**
1. mg/kg = ppm; 0.1wt% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected = less than MDL
4. "-" = Not Regulated

**PFOS Reference Information : POPs - (EU) 757/2010**

Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above 1µg/m².
Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr²⁺ test method excluded)

- Technician: Rita Chen
- Supervisor: Troy Chang

1. Cutting - Preparation
2. Sample Measurement
3. Pb/Cd/Hg
   - Acid digestion with microwave / hotplate
   - Filtration
   - Solution
     - 1) Alkali fusion
     - 2) HCl to dissolve
   - Residue
     - Digesting at 60°C by ultrasonication
     - Digesting at 150~160°C
     - Separating to get aqueous phase
     - pH adjustment
     - Add diphenyl-carbazide for color development
     - Measure the absorbance at 540 nm by UV-VIS

4. Cr²⁺
   - Non-metal
     - Dissolving by ultrasonication
     - Boiling water extraction
     - Cool, filter digestate through filter
     - Add diphenyl-carbazide for color development
     - Measure the absorbance at 540 nm by UV-VIS

5. Metal
   - Boiling water extraction
   - Cool, filter digestate through filter
   - Add diphenyl-carbazide for color development
   - Measure the absorbance at 540 nm by UV-VIS

6. Others
   - ABS / PC / PVC
Analytical flow chart – PBB / PBDE

- Technician: Yaling Tu
- Supervisor: Troy Chang

First testing process

Optional screen process

Confirmation process

Sample pretreatment

Screen analysis

Sample extraction / Soxhlet method

Concentrate/Dilute
Extracted solution

Filter

GC/MS
Analytical flow chart - Phthalate

Technician: Yaling Tu  
Supervisor: Troy Chang

【Test method: IEC 62321-8】

Sample pretreatment/separation

Sample dissolved/extracted by THF

Dilute Extracted solution

Analysis was performed by GC/MS
Analytical flow chart - HBCDD

- Technician: Yaling Tu
- Supervisor: Troy Chang

Sample pretreatment

↓

Sample extraction / Ultrasonic method

↓

Concentrate/Dilute Extracted solution

↓

Filter

↓

Analysis was performed by GC/MS

↓

Data
Test Report

HENKEL CORPORATION
18930 W 78TH ST., CHANHASSEN, MN. 55317

No. : CE/2018/63067A  Date : 2019/04/10

Analytical flow chart - PFOA/PFOS

- Technician: Yaling Tu
- Supervisor: Troy Chang

Sample pretreatment

↓

Sample extraction by Ultrasonic extraction
(Reference method: US EPA 3550C)

↓

Concentrate/Dilute Extracted solution

↓

Analysis was performed by LC/MS

↓

Data

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and for electronic format documents, subject to Terms and Conditions for Electronic Documents at https://www.sgs.com/en/terms-and-conditions/terms-e-document. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company’s findings at the time of its intervention only and within the limits of client’s instruction, if any. The Company’s sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
These samples were dissolved totally by pre-conditioning method according to below flow chart.

- Technician: Rita Chen
- Supervisor: Troy Chang

**Flow Chart of digestion for the elements analysis performed by ICP-AES**

1. **Cutting / Preparation**
2. **Sample Measurement**
3. **Acid digestion by suitable acid depended on different sample material (as below table)**
4. **Filtration**
5. **Solution**
6. **Residue**
7. **1) Alkali Fusion**
8. **2) HCl to dissolve**
9. **ICP-AES**

### Acid digestion by suitable acid depended on different sample material (as below table)

<table>
<thead>
<tr>
<th>Sample Material</th>
<th>Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel, copper, aluminum, solder</td>
<td>Aqua regia, HNO₃, HCl, HF, H₂O₂</td>
</tr>
<tr>
<td>Glass</td>
<td>HNO₃/HF</td>
</tr>
<tr>
<td>Gold, platinum, palladium, ceramic</td>
<td>Aqua regia</td>
</tr>
<tr>
<td>Silver</td>
<td>HNO₃</td>
</tr>
<tr>
<td>Plastic</td>
<td>H₂SO₄, H₂O₂, HNO₃, HCl</td>
</tr>
<tr>
<td>Others</td>
<td>Added appropriate reagent to total digestion</td>
</tr>
</tbody>
</table>
* The tested sample / part is marked by an arrow if it’s shown on the photo. *

CE/2018/63067

** End of Report **