



Test Report Page: 1 of 9 No.: CE/2020/34022 Date: 2020/03/23

HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

Sample Submitted By : HENKEL CORPORATION

Sample Description : ADHESIVE Style/Item No. : 8290 Sample Receiving Date : 2020/03/17

Testing Period 2020/03/17 TO 2020/03/23

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

(2) Please refer to next pages for the other item(s).

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

(1) Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Conclusion Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by

RoHS and amending Directive (EU) 2015/863.

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



PIN CODE: 700AF156



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Test Result(s)

PART NAME No.1 : SILVER COLORED PASTE

Test Item(s)	Unit	Method	MDL	Result No.1	Limit
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5 (2013) and performed by ICP-OES.	2	n.d.	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5 (2013) and performed by ICP-OES.	2	n.d.	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013+ AMD1:2017 and performed by ICP-OES.	2	n.d.	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321-7-2 (2017) and performed by UV-VIS.	8	n.d.	1000
Sum of PBBs	mg/kg		-	n.d.	1000
Monobromobiphenyl	mg/kg	1	5	n.d.	-
Dibromobiphenyl	mg/kg]	5	n.d.	-
Tribromobiphenyl	mg/kg		5	n.d.	-
Tetrabromobiphenyl	mg/kg		5	n.d.	-
Pentabromobiphenyl	mg/kg]	5	n.d.	-
Hexabromobiphenyl	mg/kg]	5	n.d.	-
Heptabromobiphenyl	mg/kg]	5	n.d.	-
Octabromobiphenyl	mg/kg]	5	n.d.	-
Nonabromobiphenyl	mg/kg]	5	n.d.	-
Decabromobiphenyl	mg/kg	With reference to IEC 62321-6 (2015) and	5	n.d.	-
Sum of PBDEs	mg/kg	performed by GC/MS.	-	n.d.	1000
Monobromodiphenyl ether	mg/kg]	5	n.d.	-
Dibromodiphenyl ether	mg/kg]	5	n.d.	-
Tribromodiphenyl ether	mg/kg]	5	n.d.	-
Tetrabromodiphenyl ether	mg/kg		5	n.d.	-
Pentabromodiphenyl ether	mg/kg		5	n.d.	-
Hexabromodiphenyl ether	mg/kg		5	n.d.	-
Heptabromodiphenyl ether	mg/kg		5	n.d.	-
Octabromodiphenyl ether	mg/kg		5	n.d.	-
Nonabromodiphenyl ether	mg/kg		5	n.d.	-
Decabromodiphenyl ether	mg/kg		5	n.d.	-



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Tast Itam(s)	Unit	Method	MDL	Result	Limit
Test Item(s)	Onit	Wiethod	MDL	No.1	Limit
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.	1000
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.	1000
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	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	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.	-
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	mg/kg	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.	-
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	mg/kg	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.	-
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
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.	-
Beryllium (Be)	mg/kg	With reference to US EPA 3050B (1996). Analysis was performed by ICP-OES.	2	n.d.	-

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm2. MDL = Method Detection Limit

3. n.d. = Not Detected

4. " - " = Not Regulated

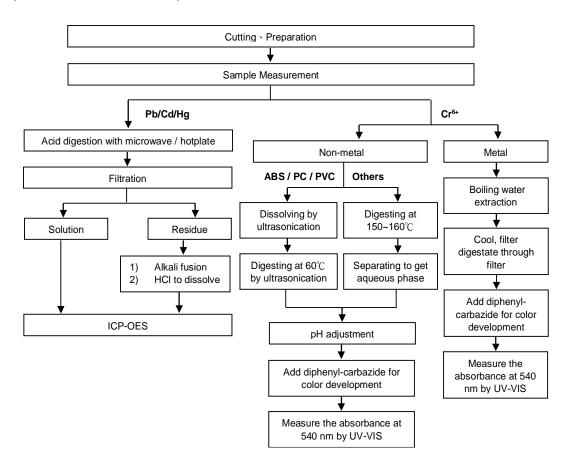


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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)



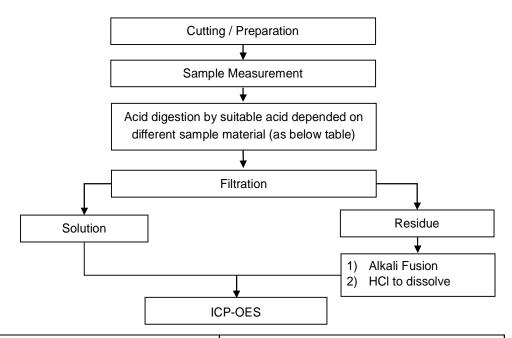


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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

These samples were dissolved totally by pre-conditioning method according to below flow chart.



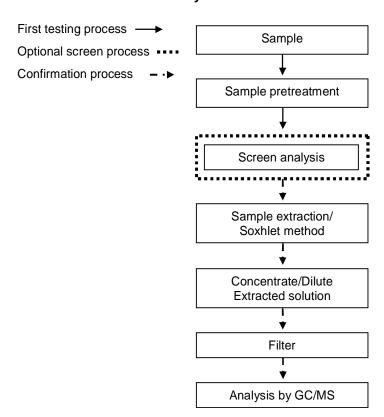
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCI
Others	Added appropriate reagent to total digestion



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - PBB/PBDE



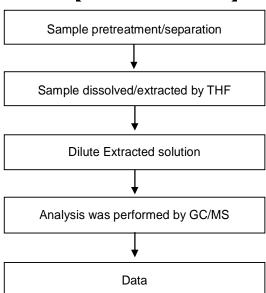


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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - Phthalate

[Test method: IEC 62321-8]

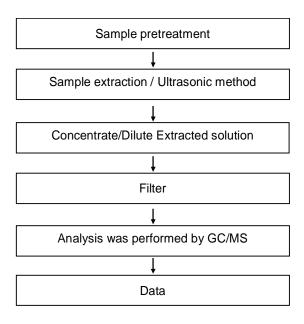




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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - HBCDD





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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

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** End of Report **





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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

The following sample(s) was/were submitted and identified by/on behalf of the applicant as:

Sample Submitted By : HENKEL CORPORATION

Sample Description : ADHESIVE

Style/Item No. : 8290

Sample Receiving Date : 2020/03/17

Testing Period : 2020/03/17 to 2020/03/23

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

Signed for and behalf of SGS TAIWAN LTD. Chemical Laboratory - Taipei



PIN CODE: 6601B46F



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Test Result(s)

PART NAME No.1 : SILVER COLORED PASTE

Test Item(s)	Unit	Method	MDL	Result No.1
Antimony (Sb)	mg/kg	With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n.d.

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm2. MDL = Method Detection Limit

3. n.d. = Not Detected

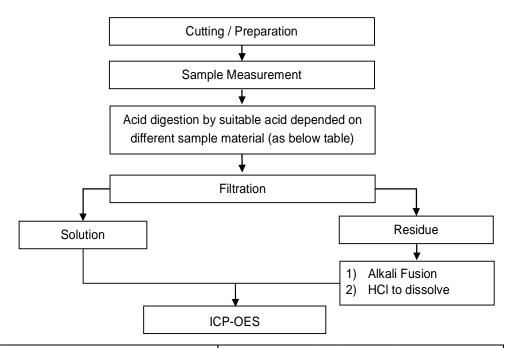


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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

These samples were dissolved totally by pre-conditioning method according to below flow chart.



Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Added appropriate reagent to total digestion



No.: CE/2020/34020 Date: 2020/03/23

HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

CE/2020/34020



** End of Report **

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Test Report Page: 1 of 4 No.: CE/2020/34019 Date: 2020/03/23

HENKEL CORPORATION

14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

The following sample(s) was/were submitted and identified by/on behalf of the applicant as:

Sample Submitted By : HENKEL CORPORATION

Sample Description : ADHESIVE

Style/Item No. : 8290

Sample Receiving Date : 2020/03/17

Testing Period : 2020/03/17 to 2020/03/23

: As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the **Test Requested**

submitted sample(s).

Test Method : Please refer to following pages.

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

Signed for and behalf of SGS TAIWAN LTD. Chemical Laboratory - Taipei



PIN CODE: 9677B5C3



No.: CE/2020/34019

Page: 2 of 4 Date: 2020/03/23

HENKEL CORPORATION

14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Test Result(s)

PART NAME No.1 : SILVER COLORED PASTE

Test Item(s)	Unit	Method	MDL	Result
				No.1
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.
Halogen-lodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm

2. MDL = Method Detection Limit

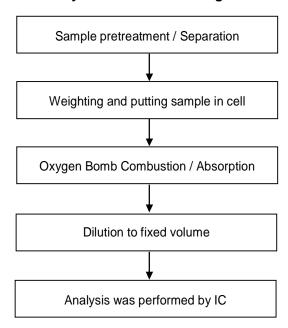
3. n.d. = Not Detected



No.: CE/2020/34019 Date: 2020/03/23

HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - Halogen



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

CE/2020/34019



End of Report **





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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

The following sample(s) was/were submitted and identified by/on behalf of the applicant as:

Sample Submitted By HENKEL CORPORATION

Sample Description **ADHESIVE** Style/Item No. : 8290

Sample Receiving Date : 2020/03/17

Testing Period : 2020/03/17 to 2020/03/23

As specified by client, to test PFOA, PFOS contents in the submitted sample(s). **Test Requested**

: With reference to CEN/TS 15968 (2010). **Test Method**

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

PIN CODE: A3E652C9

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Troy Chang / Manager - Tec Signed for and behalf of SGS TAIWAN LTD.

Chemical Laboratory - Taipei



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Test Result(s)

PART NAME No.1 : SILVER COLORED PASTE

Test Item(s)	Unit	Method	MDL	Result
				No.1
Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	With reference to CEN/TS 15968 (2010). Analysis was performed by LC/MS.	0.01	n.d.
PFOA (CAS No.: 335-67-1)	mg/kg	With reference to CEN/TS 15968 (2010). Analysis was performed by LC/MS.	0.01	n.d.

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm2. MDL = Method Detection Limit

3. n.d. = Not Detected

PFOS Reference Information: POPs - (EU) 2019/1021

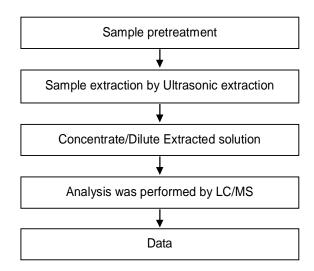
Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above 1µg/m².



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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - PFOA/PFOS





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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

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

CE/2020/34023



** End of Report **