



No.: ETR24805193

Date: 03-Sep-2024

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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 the applicant as:

Sample Submitted By : HENKEL CORPORATION

Sample Name : ADHESIVE

Style/Item No. : QMI519 (CURED)

\_\_\_\_\_\_

Sample Receiving Date : 28-Aug-2024

Testing Period : 28-Aug-2024 to 03-Sep-2024

**Test Results** : Please refer to following pages.

Test Requested	Conclusion
RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	PASS
Other items : - Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α- HBCDD, β- HBCDD, γ- HBCDD) - Beryllium (Be) - Phthalates (DIDP, DINP, DNOP)	See Results

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



PIN CODE: F36ED410



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

**Test Part Description** 

No.1

SILVER COLORED PASTE (CURED)

#### Test Result(s)

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Cadmium (Cd)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	n.d.	100
Lead (Pb)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	n.d.	1000
Mercury (Hg)	With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.	mg/kg	2	n.d.	1000
Hexavalent Chromium Cr(VI)	With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.	mg/kg	8	n.d.	1000
Monobromobiphenyl		mg/kg	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	5	n.d.	-
Sum of PBBs	With reference to IEC 62321-6: 2015,	mg/kg	-	n.d.	1000
Monobromodiphenyl ether	analysis was performed by GC/MS.	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	1 Γ	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.	-
Sum of PBDEs		mg/kg	-	n.d.	1000

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Butyl benzyl phthalate (BBP)		mg/kg	50	n.d.	1000
Dibutyl phthalate (DBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Di-(2-ethylhexyl) phthalate (DEHP)		mg/kg	50	n.d.	1000
Diisobutyl phthalate (DIBP)		mg/kg	50	n.d.	1000

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Diisodecyl phthalate (DIDP) (CAS No.: 26761-40-0, 68515-49-1)		mg/kg	50	n.d.	-
Diisononyl phthalate (DINP) (CAS No.: 28553-12-0, 68515-48-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Di-n-octyl phthalate (DNOP) (CAS No.: 117-84-0)		mg/kg	50	n.d.	-
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	With reference to IEC 62321-9: 2021, analysis was performed by GC/MS.	mg/kg	20	n.d.	-
Beryllium (Be) (CAS No.: 7440-41-7)	With reference to US EPA 3050B: 1996, analysis was performed by ICP-OES.	mg/kg	2	n.d.	-

#### Note:

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit
- 3. n.d. = Not Detected (Less than MDL)
- 4. "-" = Not Regulated
- 5. 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.
- 6. Curing condition: 15 minutes @ 200°C

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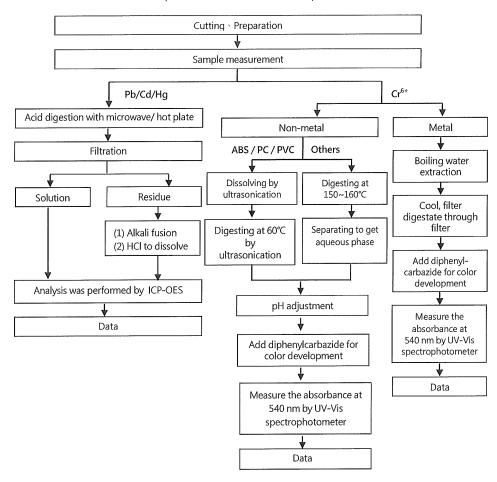
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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

#### Analytical flow chart of heavy metal

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

( Cr<sup>6+</sup> test method excluded )



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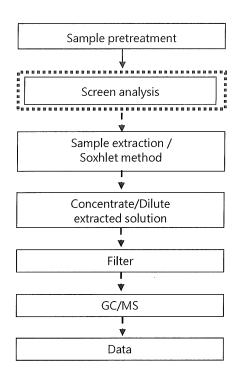
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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

#### Analytical flow chart - PBBs / PBDEs

First testing process \_\_\_\_
Optional screen process \_\_\_\_
Confirmation process \_\_\_\_



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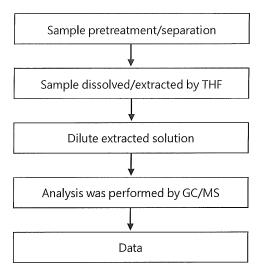
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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

Analytical flow chart - Phthalate

【Test method: IEC 62321-8】



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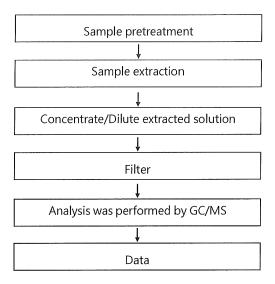
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#### Analytical flow chart - HBCDD



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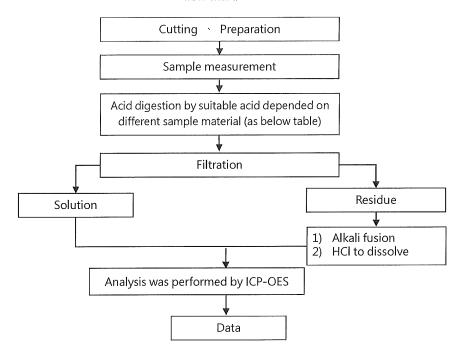
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HENKEL CORPORATION 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

#### 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO₃/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Added appropriate reagent to total digestion

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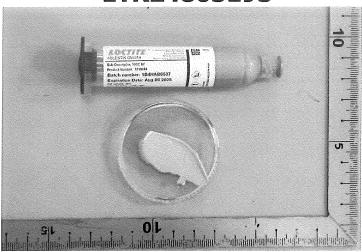
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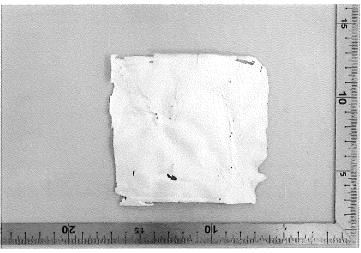
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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

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Date: 03-Sep-2024

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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 the applicant as:

Sample Submitted By

: HENKEL CORPORATION

Sample Name

ADHESIVE

Style/Item No.

QMI519 (CURED)

\_\_\_\_\_\_

Sample Receiving Date

28-Aug-2024

Testing Period

28-Aug-2024 to 03-Sep-2024

Test Requested

As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in

the submitted sample.

**Test Results** 

:

Please refer to following pages.

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



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

**Test Part Description** 

No.1

SILVER COLORED PASTE (CURED)

#### Test Result(s)

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

#### Note:

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

2. MDL = Method Detection Limit

3. n.d. = Not Detected (Less than MDL)

4. Curing condition: 15 minutes @ 200°C

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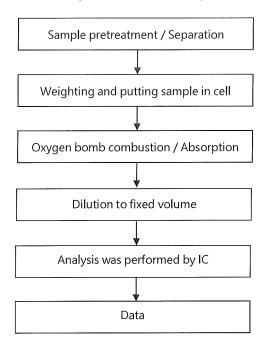
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#### Analytical flow chart - Halogen



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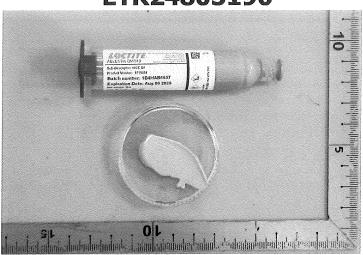
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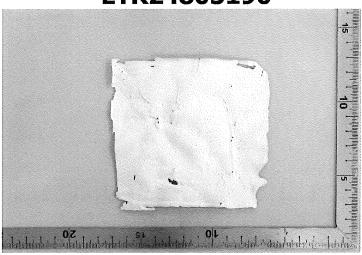
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