

Test Report

No. : CE/2020/12756

Date : 2020/01/17

Page : 1 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

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

Sample Submitted By : KESTER AN ILLINOIS TOOL WORKS COMPANY
Sample Description : TSF-6522RH
Sample Receiving Date : 2020/01/10
Testing Period : 2020/01/10 to 2020/01/17

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 Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.


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



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 hereon 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.



Test Report

No. : CE/2020/12756

Date : 2020/01/17

Page : 2 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

Test Result(s)

PART NAME No.1 : YELLOW PASTE

| Test Item(s) | Unit | Method | MDL | Result | Limit |
|----------------------------|-------|---|-----|--------|-------|
| | | | | No.1 | |
| 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 | With reference to IEC 62321-6 (2015) and performed by GC/MS. | - | 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 PBDEs | mg/kg | | - | 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. | - |

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.

Test Report

No. : CE/2020/12756

Date : 2020/01/17

Page : 3 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

| Test Item(s) | Unit | Method | MDL | Result | Limit |
|--|-------|---|-----|--------|-------|
| | | | | No.1 | |
| 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 |
| 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 | | 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. | - |
| 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 (Cl) (CAS No.: 22537-15-1) | mg/kg | | 50 | n.d. | - |
| Halogen-Bromine (Br) (CAS No.: 10097-32-2) | mg/kg | | 50 | 497 | - |
| Halogen-Iodine (I) (CAS No.: 14362-44-8) | mg/kg | | 50 | n.d. | - |
| 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% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected = less than MDL
4. " - " = Not Regulated

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 hereon 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.

Test Report

No. : CE/2020/12756

Date : 2020/01/17

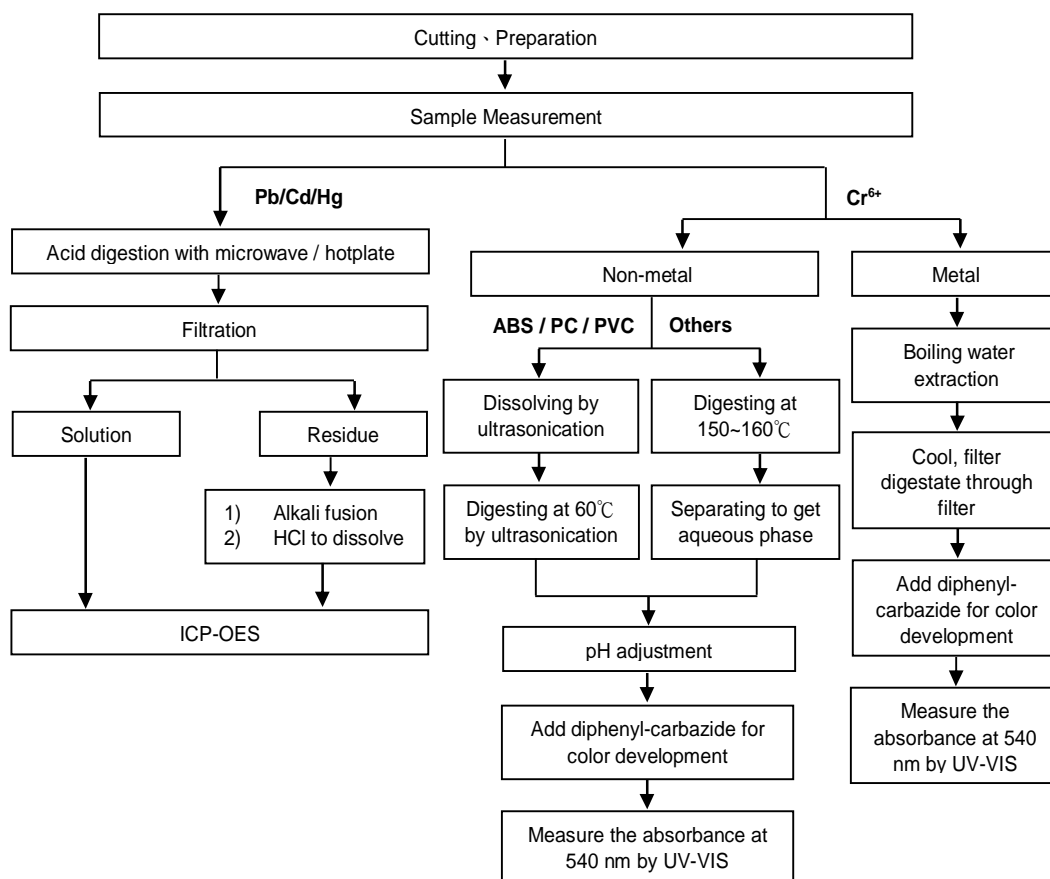
Page : 4 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

Analytical flow chart of Heavy Metal

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

- Technician : Rita Chen
- Supervisor: Troy Chang



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.

Test Report

No. : CE/2020/12756

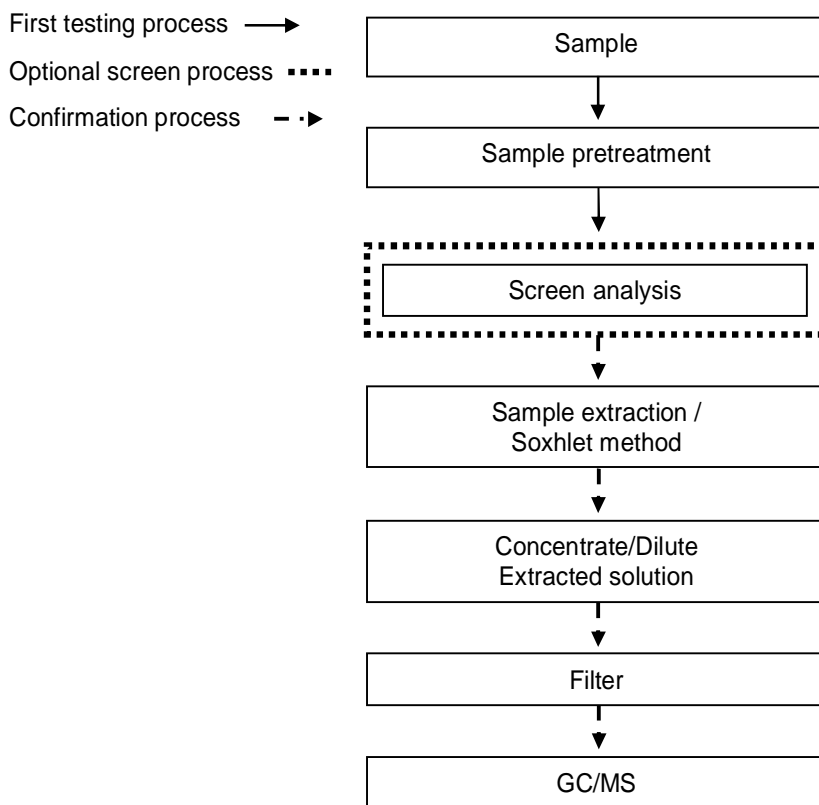
Date : 2020/01/17

Page : 5 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

Analytical flow chart – PBB / PBDE

- Technician : Yaling Tu
- Supervisor: Troy Chang



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 hereon 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.

Test Report

No. : CE/2020/12756

Date : 2020/01/17

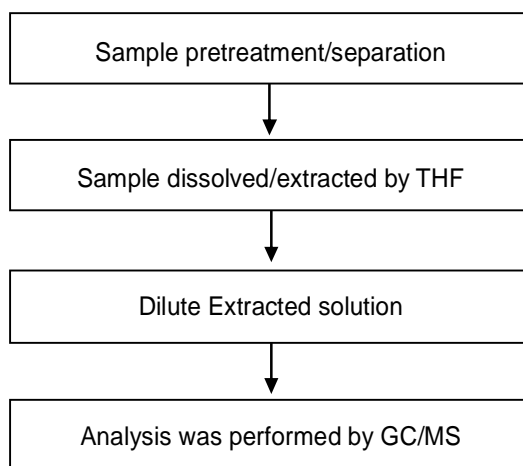
Page : 6 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

Analytical flow chart - Phthalate

- Technician: Yaling Tu
- Supervisor: Troy Chang

【Test method: IEC 62321-8】



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 hereon 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.

Test Report

No. : CE/2020/12756

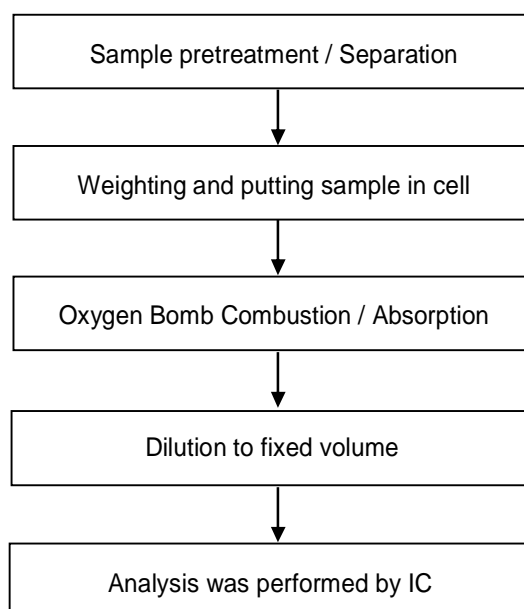
Date : 2020/01/17

Page : 7 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

Analytical flow chart - Halogen

- Technician: Rita Chen
- Supervisor: Troy Chang



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 hereon 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.

Test Report

No. : CE/2020/12756

Date : 2020/01/17

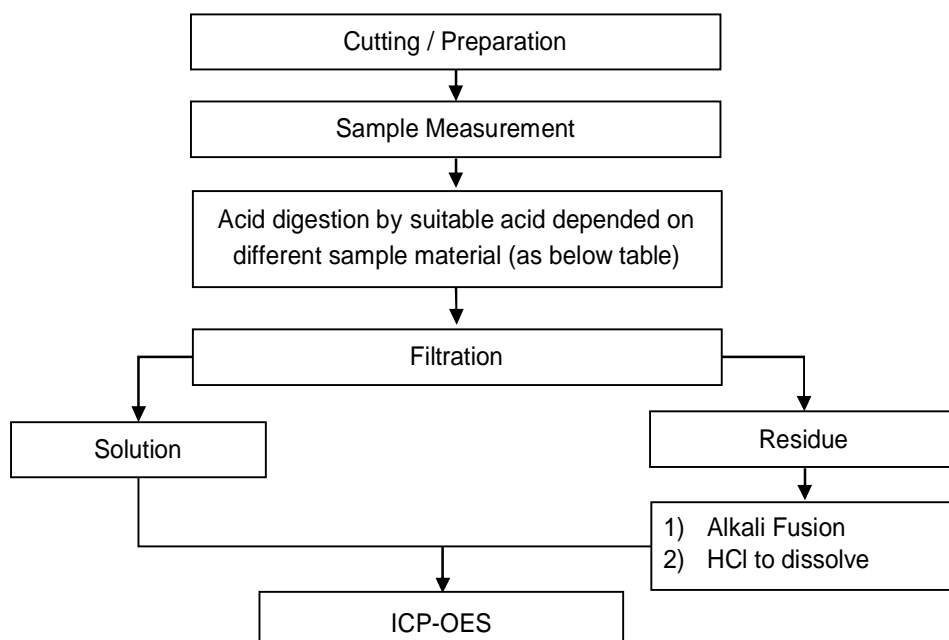
Page : 8 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

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-OES



| | |
|------------------------------------|---|
| 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 | HNO ₃ |
| Plastic | H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl |
| Others | Added appropriate reagent to total digestion |

Test Report

No. : CE/2020/12756

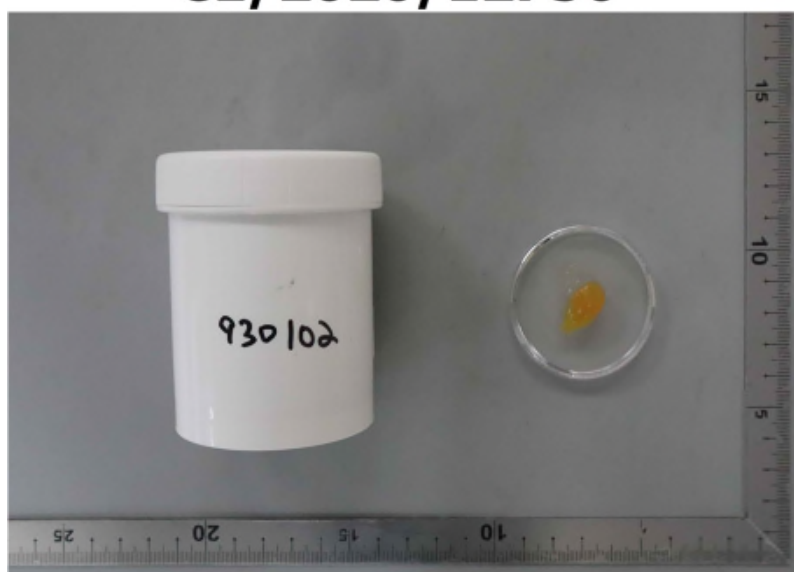
Date : 2020/01/17

Page : 9 of 9

KESTER AN ILLINOIS TOOL WORKS COMPANY
800 W. THORNDALE AVE. ITASCA, IL 60143

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

CE/2020/12756



** End of Report **

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 hereon 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.